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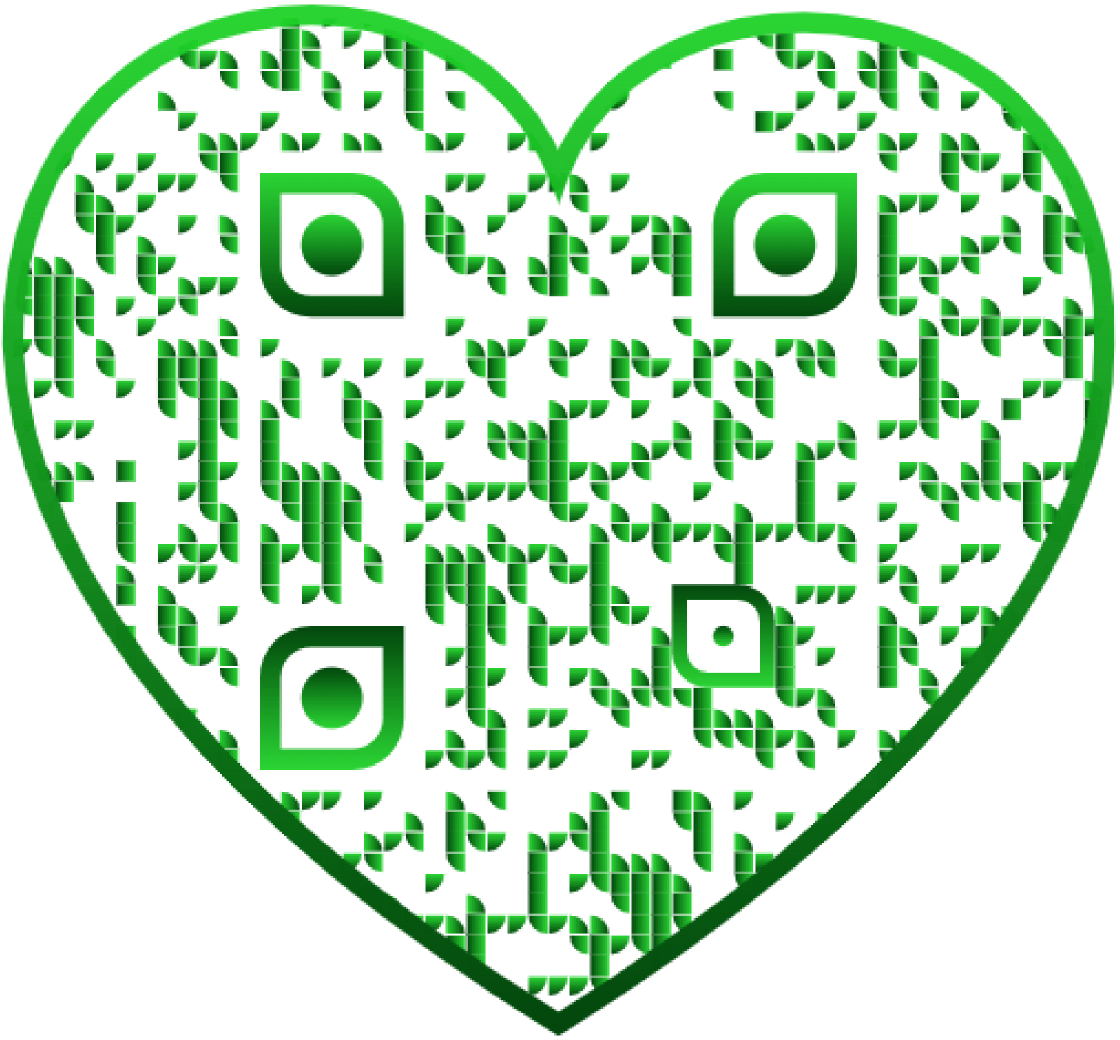

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ALL NEW DOWNLOAD SYSTEM

And away...

Self indulgence alert! It's nearly 25 years since this magazine began and – yes, you can see it in the lines on my face – I was there. They say you should never return to your first love, but I came back to *Computer Music* some 40 issues ago, with the same ideas, naivety and imposter syndrome I had a quarter of a century before. Little did I know what Covid had in store: the most tumultuous time in our history. In magazine history. In human history, even! Of course it was difficult for everyone, but we lost our DVD, we lost our budget and I lost my sanity on at least one occasion. To say it's been a Cakewalk – get me with my clever software references – would be a lie; it's frankly a miracle we're still here. But here we are and in pretty good shape, even though I say so myself. But I am now handing the reins over to Mr Andy Price who will be your editor from now on. Eagle-eyed magazine readers might recall he took over from me when I left *MusicTech* magazine. He's basically a younger, (slightly) better looking version of me who gets my jobs because he's called 'Andy' (it saves on stationery costs). But you are in very capable hands. He's possibly the nicest person in this industry (myself aside, naturally) and he even knows how to play an instrument or two. And sing. So I'll whisper a sad 'goodbye'. Inevitably I'll be launching a podcast (a gratuitous plug for 'What 3 Synths?', in which I talk to seminal synth types about their favourite gear) and I might even make some music, because *there's nothing better than hearing your own music and actually enjoying it*. Nothing. That's what this is *really* all about, and always has been. So keep clicking and tweaking. Making music is amazing.

Andy Jones **Editor**
andy.jones@futurenet.com

ISSUE 319 APRIL 2023

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FREE DAW AND SYNTH!

YOUR FREE DAW 2023!

How to use Tracktion Waveform Free and make music now!

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How to get up and running with this free DAW – from installation to navigation. *Plus* how to redeem and download your free LoFreq Classic synth (worth $79) to run with it! Grab it now!

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Nouf Sufyani is Saudi Arabia's first female superstar DJ, quite an achievement in a country that only allowed women to drive in 2018

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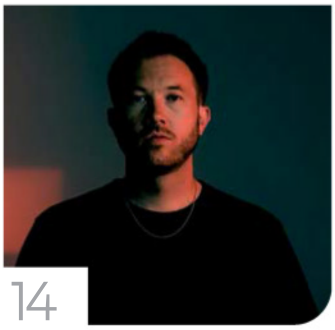

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PLUS YOUR FREE LOFREQ CLASSIC SYNTH!

Here's how to install and use both Tracktion Waveform Free and your free classic synth

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cm/news

NEW RELEASES > COMMENT > INDUSTRY HAPPENINGS

The hottest new hardware of 2023?

New Matrix device promises to be "the only grid controller you need"

> We love an inflated press release here at *Computer Music* and tend to get sent some crackers every month, many of which feature hardware or software that promises the world. None more so than this release from newcomers and Kickstarter developers 203 Electronics. Their new Matrix, they say, "is the only grid controller you need".

Matrix actually doubles as both a MIDI controller and light display performer. It's been designed to be a highly portable device, and also one that is totally customisable thanks to its open-source architecture. As such it ships with its own Matrix OS, in which you can create your own apps to suit your needs. However, 203 also claim that Matrix is easier to use than that sounds, saying this "enables a straightforward box experience for all types of players without any required knowledge".

Matrix certainly seems to fulfil the first part of the brief – at just 13.2mm thick it is definitely portable. There are two versions of the device with a Standard controller having 64 'high-brightness' LEDs. The Pro version has an additional 32 underglow LEDs which add more flexible light show drama when it comes to performing.

Surprisingly, with the Standard version, the pads aren't velocity sensitive, but they are on the Pro version, so we reckon that will be the one that most people opt for, especially when used as a MIDI controller.

Taking care of your MIDI control and light needs in one diminutive device, it's time to enter the Matrix…

Both devices have USB-C and Bluetooth LE/WiFI wireless connectivity.

They are also equipped with a hidden control button and dual touch strips on the sides, "allowing easy control without interrupting the aesthetic of the unit".

We wouldn't normally give so much publicity to a Kickstarter product as sometimes they fail to materialise, but Matrix has already fulfilled its (albeit low) funding target and promises to be available in May of this year.

The devices also look pretty cool from the initial publicity, before the intro video descends into the inevitable trap and bass theme. Did that make us sound old?

More importantly, both of the devices have pretty decent price tags, all things considered: the Standard version will be $129 and the Pro version $199, but you can still get early bird prices of $99 and $169 respectively. We will, of course, have reviews for you of both in coming issues.

https://203.io

ChopMonster: a generative loop monster of a plugin

And could this be the hottest plugin of 2023?

Here's another newcomer, Chop Audio, and they say that their new ChopMonster plugin is "the hottest of 2023". It was developed by the multi-platinum, award-winning producer and "taste maker" Felix Snow, and is an auto-generative audio phrase sampler, slicer and randomiser. Phew! It allows you to take any loop and create musical and random results from it by not only slicing your audio up but assigning keys to the slices. You essentially "play your loops", and it's certainly dramatic, especially used on vocal phrases, taking processing to another level. Price is a $10/month subscription.

www.chopaudio.com

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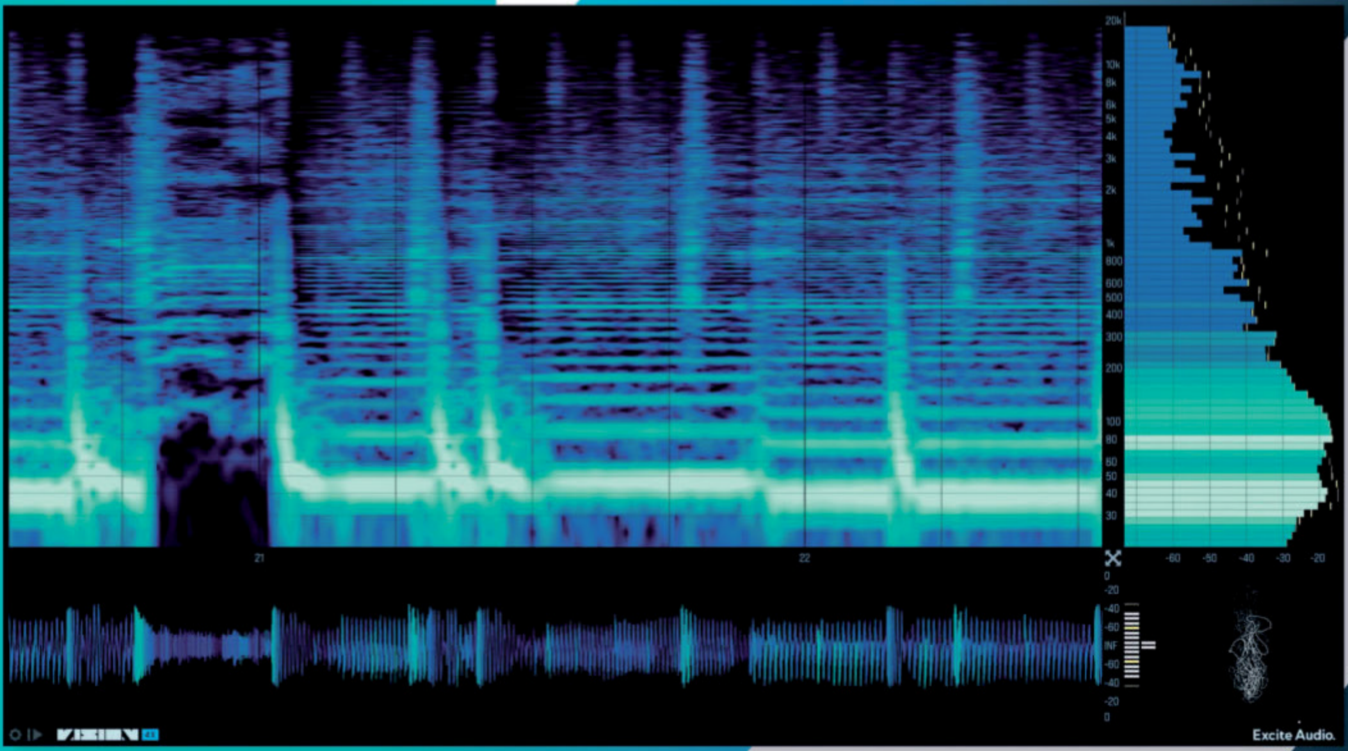

“Working with multiple visual analysers for over 20 years has helped us to understand our sound. We’ve now built our own, combining all the features and functionalities we had always wanted to see.”

NOISIA

Pioneering Dutch electronic music trio

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Get with the programmers

Peter V (aka Dawesome) has been programming some great instruments for companies including our cover stars Tracktion. Who better to answer our pro Qs?

Tracktion/Dawesome

Peter V

cm How did you get into music software?
PV "As a small child I discovered that you can play drums on cooking pots. Since then I have always made music. A few years later, and with the first home computers, I learned programming and how you can make wonderful noises and sounds."

cm How did you become successful?
PV "I was looking for a job to combine my fascination for music and software, so I jumped in at the deep end and founded Dawesome. My very first synth, Abyss, was a big success."

cm What is your overall philosophy?
PV "Making music should be fun! That means having a simple software user interface that is intuitive, visual and inspiring. A good synth may produce strange sounds, but it should always play expressively and emotionally like an acoustic instrument."

cm What are your most important plugins?
PV "My first plugin, **Abyss**, introduced the idea of representing sounds by colours: warm sounds with warm colours like orange or red, cold sounds rather with blue etc. **Novum** extended this concept to the processing of samples with machine learning. This allows a complete instrument to be created from a single sample in a very short space of time."

cm How will they change the way we make music?
PV "You will have more fun with sound design! And the idea of representing sound through colour changes the way you think about design: you realise 'oh I've used a lot of orange sounds here; I should add some turquoise for contrast'."

> "Representing sound through colour changes the way you think"

cm What are your favourite plugins made by other developers?
PV "I love all **Puremagnetik** plugins – intuitive, unusual and inspiring. **Valhalla Shimmer** is instant fun and I use it often. **Entonal Studio** is the future of microtonal, with a nifty user interface and the brilliant concept of translating scales into MPE. **Native Instruments Absynth** has the best name and is one of the most versatile and fabulous-sounding instruments. And I love **Reaktor**, especially Metaphysical Function to create drones."

cm What would you like to see developed in plugin technology?
PV "Standardisation and extension of plugin formats – it is very time consuming to support the different formats with all their weirdness. And a platform to access the power of graphic cards for audio. This could unlock a new generation of tools."

cm What advice do you have for software programming wannabes?
PV "Quality in every respect is the most important feature, from the code base to the UI and customer service. I think there is enough room in the market for creative tools beyond the beaten track. It's not an industry to get rich in, but as an indie developer I can realise my dream."

cm What have you got planned for the future?
PV "An innovative synth based on so-called Strange Attractors called Kult is out now. In the coming year there will be a new type of instrument that combines granular and physical modelling. And of course the existing instruments will get free updates with new features."

www.dawesomemusic.com

App watch

We report on the latest developments in phone and tablet music making

AudioKit Pro

The wave of '90s nostalgia in popular culture shows no sign of breaking, so now seems like an opportune time for AudioKit Pro to be launching Saga Synth, a new instrument based on samples of five different Yamaha YM2161 soundchips. This was the chip that was used in the Sega Mega Drive, one of the aforementioned decade's most popular consoles.

There are more than 300 presets to light your 16-bit fire, including synth, drum and FX sounds. You can dial in the Sonic Blast overdrive for some hedgehoggy retro crunch, and there are several other chiptune-flavoured effects, too.

Saga Synth runs standalone or as an AUv3 plugin and currently costs just £2.49/$2.99.

audiokitpro.com

Caelum Audio Choric

Choric is a flexible-looking chorus effect that can generate its textures using up to 32 voices. It's said to be capable of producing both traditional chorus sounds and "natural, realistic unisons", while different modulation shapes can be applied to add movement.

The filter enables you to control which parts of your sounds are treated with the effect, and you can also pitchshift your incoming audio and pan voices across the stereo field. There are Warm and Dark modes for adding analogue-style saturation and rolling off high frequencies respectively, and you get 50 presets.

Choric runs as an AUv3 plugin and has an intro price of £6.99/$7.99.

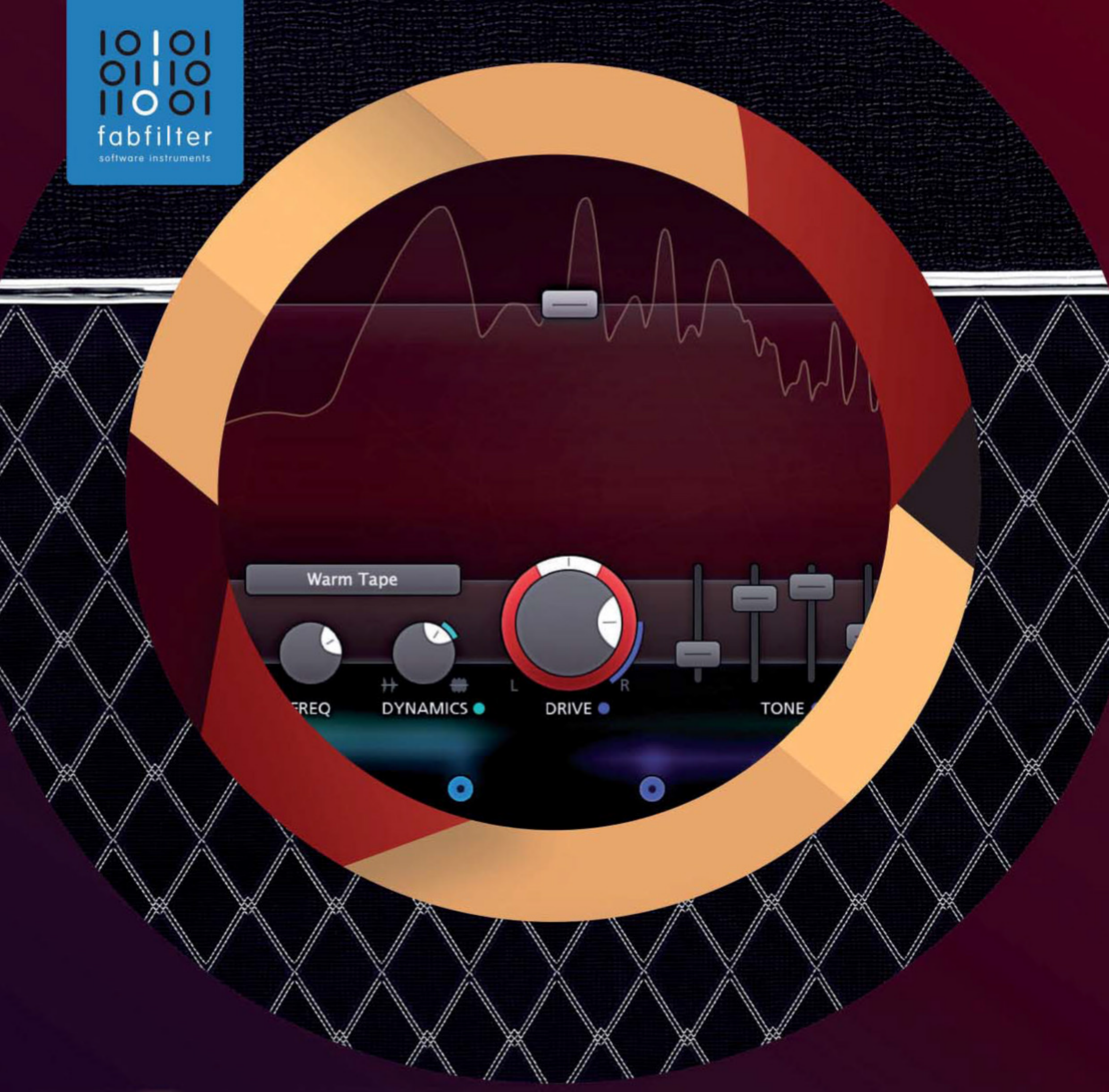
www.caelumaudio.com

Lemur

Music technologists with a few miles on the clock may remember the Lemur, a 2005 touchscreen controller that pre-dated the iPad and was used by the likes of Kraftwerk and Daft Punk. Inevitably, an iOS version did arrive in due course, but last year, original developer Liine decided to call it a day, saying that their business was no longer sustainable.

Fear not, though, because a company called MIDI Kinetics has stepped into the breach. The Lemur app remains off the Apple App Store and Google Play for now, but looks set to return when MIDI Kinetics is "confident in our ability to service customers". Hurrah.

www.midikinetics.com



Saturn²

Take your music to the outer limits

FabFilter Saturn 2 is a major update to the Saturn distortion/saturation plug-in, introducing a fully redesigned interface with modulation visualization, new subtle saturation and linear phase processing for mastering, many new distortion styles, and much more.

www.fabfilter.com

COMPUTER music 10 years back

Our monthly shake-of-the-head at our earlier selves' news choices...

With many mentions of bass music and pictures of producers wearing baseball caps (should that be bassball?) it could only be 2013. That said, this 10-year-old issue was taking a path away from said low-end tones, with its experimental cover feature, but we have to turn to the Burning Question for our laughs this month. It attempted to predict the future, and as we're now living in that future, let's see how right they/we got it...

"So did we effectively predict a global pandemic back in 2013? Not really..."

Well, it turns out we shouldn't laugh too much, as our younger selves got a few things correct, and one scary one. We predicted the rise of analogue synths which came true (although, to be fair, it was in full flow then anyway). We also predicted more tablet and phone apps – OK, quite an easy one too – but the (possibly) scariest was the prediction of fewer trade shows. What with Covid, that was spot on, with most shows canned since 2019. So did we effectively predict a global pandemic back in 2013? Not really, but it's given us the confidence to predict more now and see how it pans out. Next time, the CM team become millionaires...

cm189: Experimental, bass heavy and full of (correct) predictions about the future

Scatter: the most simple and effective plugin ever?

Soundghost certainly make relatively simple-looking plugins, but they also seem to be highly, er, effective. Scatter is their latest release, and creates random granular sounds from the audio you supply. The results are complex soundscapes, shimmering ambience and deep textures. "Shape, pitch and reverse the scattered grains," Soundghost say, and then add, probably in a slightly whimsical way, "and send them into space". Which is easily enough to persuade us to do a review, so we'll have one soon. Scatter costs £49, although you might just catch 20% off online.

https.soundghost.net

Ins & outs

TYLER THE VERY SUCCESSFUL CREATOR
Congratulations to Tyler Johnson, who – according to credits database Jaxsta – was 2022's most successful music producer (based on various metrics). Oh and co-producing Harry Styles' latest album probably helped.

ALL WE HEAR IS RADIO GOOGLE
As musicians, you may find Google's MusicLM AI model scary, as it can already do a pretty good job of creating tracks based on text prompts and even a hummed melody. Maybe this 'computer music' thing has gone too far...

HARMONY HEAVEN
Even if the mere mention of the circle of fifths is enough to send you to sleep, we'd recommend Mindful Harmony, a new, free online tool that uses said circle to help you come up with more interesting chord progressions that modulate between keys. Honestly, it's great.

SOUNDWIDE LAY-OFFS
Soundwide – parent company of Native Instruments, iZotope, Plugin Alliance, Brainworx and SoundStacks – have laid off 8% of its workforce. Soundwide says that the losses are "painful", but should have "minimal impact" on customers. Tough times indeed.

IN RAINBOW(S) ROAD
If you're missing new Radiohead music, which doesn't appear to be coming any time soon, how about a note-by-note remake of the band's 2007 album *In Rainbows* that was using SoundFont sounds from classic Nintendo game Super Mario 64? It's quite a listen.

RICK RAGIN'
Rick Astley has claimed that, although hip-hop artist Yung Gravy had acquired the legal right to interpolate his 1987 hit *Never Gonna Give You Up*, the vocal on 2022 single *Betty (Get Money)* sounded far too much like Astley's original.

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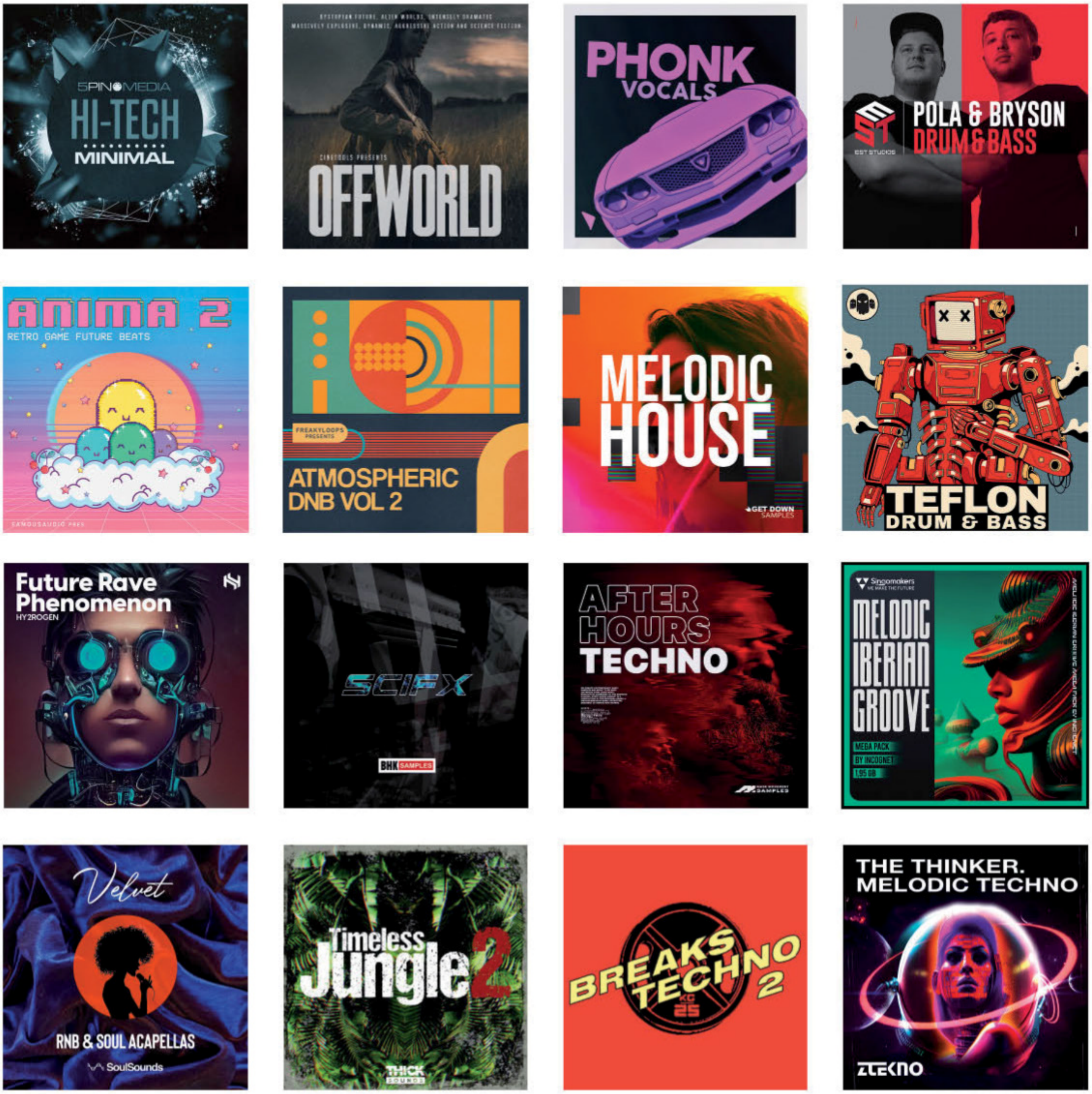

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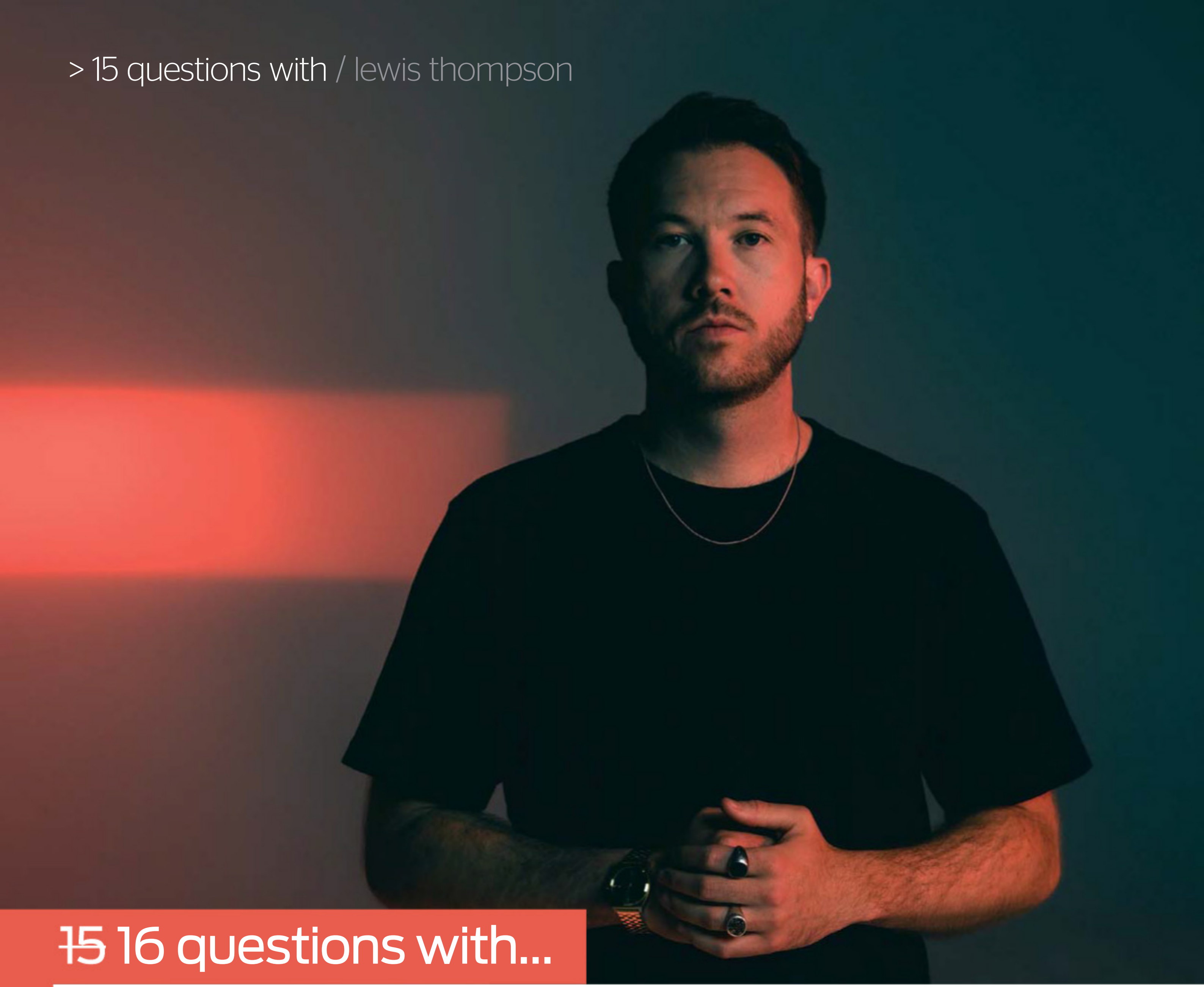


~~15~~ 16 questions with...

Lewis Thompson

Lewis Thompson is one half of DJ duo Just Kiddin' and also partnered David Guetta for last year's huge hit *Take Me Back* which has so far been streamed over 20 million times. He has production and writing credits on eight Top 10 UK singles, but as one of the most prolific dance producers out there, that is just the start of it. Time for 15, actually 16, answers please...

> Ever worried that you haven't got the talent to make it big in the music business? Well, take a leaf or two out of Lewis Thompson's book. He might not have the self belief either, but he certainly has the sheer determination, hard work ethic and, well, isn't afraid to exaggerate when it comes to the truth on occasion. And now he's had a smash hit with David Guetta, and produced and co-written some of the UK's biggest hits. These include Joel Corry's *Sorry*, *Lonely* and *Out Out*, the number 1 single with MNEK *Head & Heart*, plus Anne-Marie and Little Mix's collaboration *Uh Oh*, not to mention the international smash *Crazy What Love Can Do* with David Guetta, Ella Henderson and Becky Hill. Who needs talent then? He's also got some great words of wisdom...

1 How did you start out in music production in the first place?

Lewis Thompson: "I've always had a curiosity for music. I played guitar in bands when I was younger but never got anywhere. I really got into electronic music a few years before university. When I got to uni I met a club promoter on a night out and told him I was a pretty established DJ. This was a complete lie – I'd never touched a pair of decks in my life! The next night he texted and asked me to come down for a set, I almost ignored the message, but instead, ran to the shop, burnt some of my fave tunes onto CD, showed up and somehow blagged it. It was almost definitely an awful set,

> "I told him I was an established DJ. I'd never touched a pair of decks in my life!"

but that decision to show up and play was definitely one of the best I've made. It changed my life as I caught the bug for DJing, which led me to make my own records."

2 When and how would you say you became successful, or at least able to make a living from music?

LT: "The main reason why I believe I've had any success is from my drive, determination and resilience. I've been so used to people telling me 'no'. At school I wasn't allowed to study music, because I couldn't read sheet music. I've had so many managers , A&Rs and record labels tell me 'no'. Handling rejection is such a big part of it. But as bad as rejection feels, proving people wrong feels so much better. I've always been quite competitive, so that's how I thrive. Also, being good at anything takes time. I'm a big believer in the 10,000 hour rule. I started making music in 2008 so this has not been an overnight success by any means. Talent will get you so far, but the majority is how much you want it. I've never really believed I'm particularly talented, this is what really grounds me and makes me work harder than others."

3 What is your production philosophy?

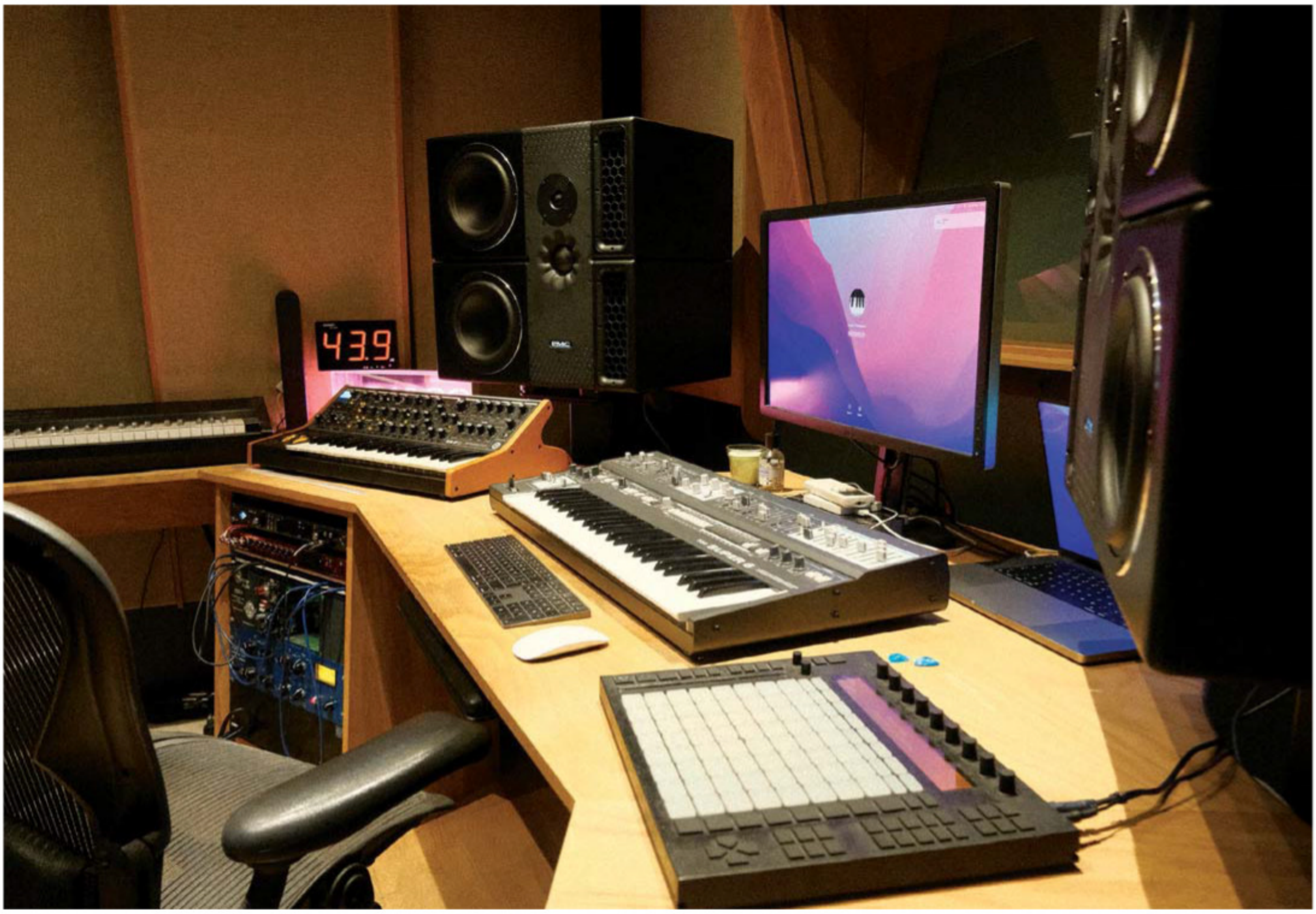
LT: "I'd say simplicity. Simple always wins, be it a melody, production, arrangement, lyrics etc. As soon as one of these elements is over complicated, I think the song suffers. Secondly, I'd think about why you're making music. I make records for myself and try to create things that I find exciting. If you start making music for other people or to make money then you're probably in the wrong industry."

4 When did you discover the computer music route to music production?

LT: "I downloaded Ableton in 2008 and it changed my life. I just found it fascinating how I could sketch ideas down and start creating. Me and my brother would sit at home for weekends on end messing around on Ableton. "

5 Tell us about the gear in your studio

LT: "For my monitors I've recently invested in some new PMC 8-2 speakers, which I'm loving working on. For my microphone I've got a Neumann u87 Ai but have just purchased a Sony C800G which I can't wait to use. This mic chain then goes into a 1073 preamp followed by a Tube-Tech CL1B- meaning my vocals are sounding pretty nice before they're even in the box. I've then got a synth collection including a Roland Juno-60, Moog Sub 37, Sequential OB-6



and recently an UDO Super 6, which might be my favourite of the bunch. All these route into a patchbay so I can send them into any preamps or compressors I might want to."

6 What are your favourite plugins?
LT: "**u-he Diva.** The ultimate analogue emulation, it's definitely the closest virtual synth I've found to the real thing. I love how easy it is to use and how versatile it is – the templates for different synths are really useful.
VPS Avenger. I used the Vengeance sample packs when I first got into making music so was keen to try this synth out. The sounds are just so 'finished', I really love it. Everything from synths, basses, pianos, strings, guitars – it's got it all. People love Nexus but I think this is way better.
Soundtoys Bundle. I love how experimental Soundtoys plugins make me. It's so good for those 'happy accidents', especially with the Effect Rack presets where you can use multiple plugins at once.
u-he Repro. This models the Pro-One synth, which I love the sound of. It's great for bass sounds, arps, leads and sounds exactly like the real synth.
Sonnox Oxford Envolution. This is the best transient shaper I've ever used. It's super visual and easy to understand how you're actually shaping a sound. Great on drums!"

7 How do you tend to start a track?
LT: "I usually start with some sort of basic chord or melody, just an 8-bar loop to start building a song around. I have a huge folder of chord progressions and melodies I make. I'll just have a day of creation where I mess around in one project with no judgement and save anything I think is good. I then bring these banks of chords/loops into sessions to write to. I've learned that bringing in a fully-produced record into a vocal/writing session is really limiting. Writers want freedom, so keeping things stripped back is really important. I don't even

"I've never believed I'm talented. It's what grounds me and makes me work harder than others"

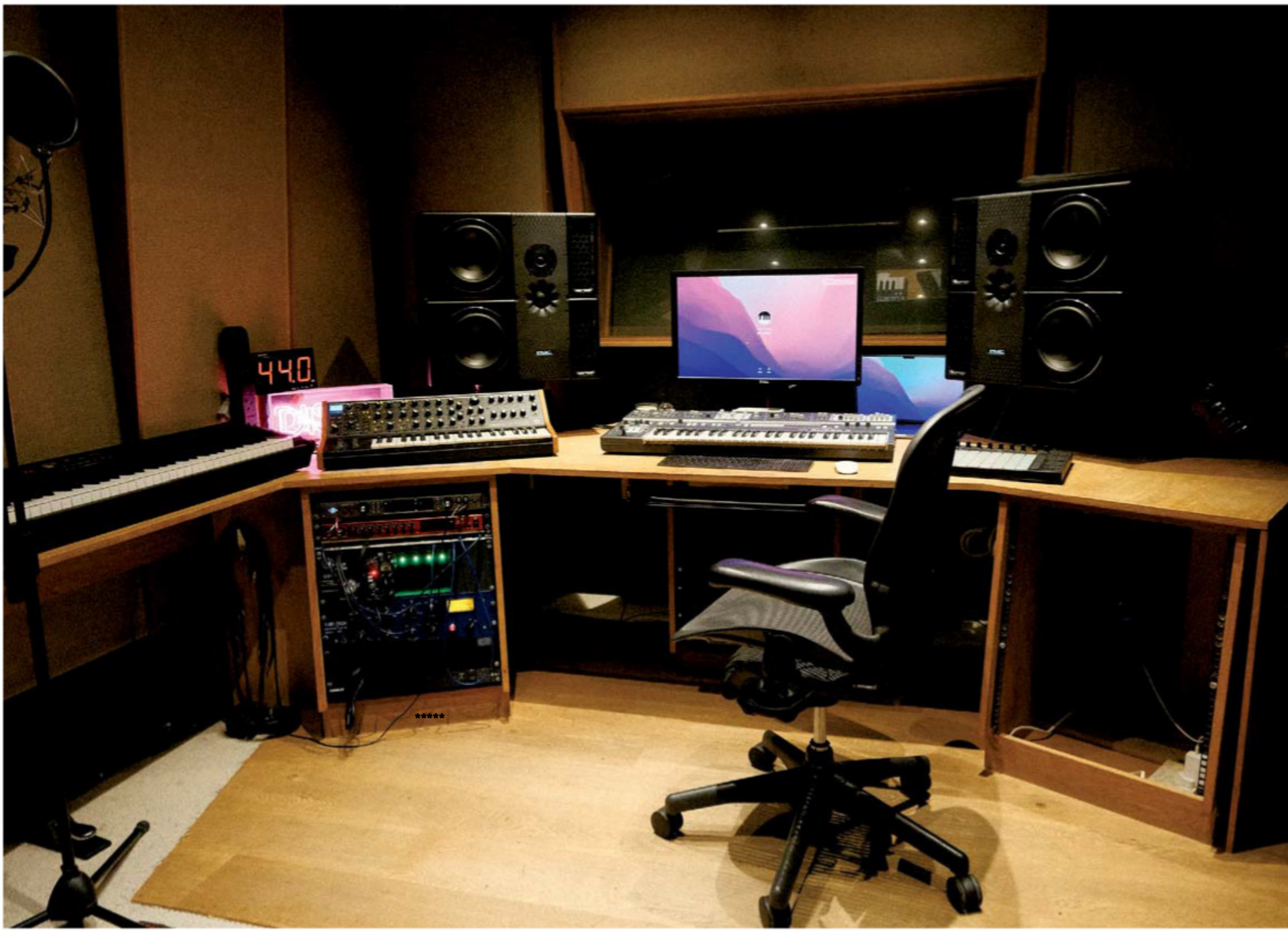
mess with drums until we have the basic song written. Sometimes myself or another writer will have a vocal melody too – that's a fun way of writing. From that melody I'll try and figure out some chords or bass notes that feel right with it. It's the reverse approach to the above."

8 Do you have any production tricks?
LT: "I don't have loads of different tips or tricks with production, if I'm honest. I usually find the best ideas happen as mistakes – selecting the wrong preset or putting the wrong plugin somewhere. So make sure you create an environment with yourself and others where mistakes are welcome; they make the best ideas. One thing I do differently is commit a lot quicker to sounds. This started out of a limitation, because my old Mac was starting to get really slow and laggy. So, I got into the habit of bouncing synth/bass sounds out as soon as I made them, and seeing it as audio in Ableton. Basically it's the same approach to using analogue gear, where you think 'close enough, let's commit'. I think the decisiveness of it makes you work so much faster; it stops you tweaking and dwelling."

9 How do you know when a track is done?
LT: "I know some people who never think songs are finished and keep pushing, version after version, until it's done. I don't really work in this way and usually the best records happen really quickly and I'm not even thinking about it. I go into a state of flow and two or three hours later, I come out with something. If a song is taking forever to complete, something isn't right. The best songs are the easiest to produce and finish, so maybe the song isn't right? Maybe it's the arrangement? Or the sound choices in the production? If I'm finding something really difficult to finish, I'm learning to put it down and let my mind sit on it for a few weeks. Somewhere down the line, a few weeks or months later, an idea will come to me on how to finish it."

10 What's on your gear wishlist?
LT: "A Sony C800G, Telefunken 251, Roland TR-8S, Roland SH-101 and Chandler TG-2."

11 Are you involved with any collaborators on your projects?
LT: "I'm always collaborating in every project I'm involved in. Individuals rarely make records; it's teams of people. When I first started making music I wanted to do everything on my own, from song writing to mixing. Looking back in hindsight, this was ambitious but a bit of a mistake. Being open to collaborate with writers, producers and singers really changed my approach to making music. Today, I love collaborating with people. I'm lucky to have



some amazing people around me that I do this with, that have turned out to be some of my closest friends, too. The biggest hurdle with collaborating is communication. When you're in a session, it's vital to read the room and make sure everyone is on the same page, heading for the same end goal. If one person is heading in a different direction or something isn't clear – you'll end up with a messy hybrid song that's been shoe-horned with multiple ideas."

12 Which track do you wish you'd produced and why?

LT: "Calvin Harris *We Found Love*. I find it hard to process that Calvin is the only writer and producer on this record – 100% to him. That's so rare to see, some songs have 15 writers and four producers on them! The writing is so clever and smart. I love how the verse melody mirrors the chorus so it's already familiar. That chorus lyric is just so relatable too. Fair play Calvin."

13 Any advice for playing live?

LT: "Advice here would be to make sure you're prepped. I learned this the hard way. If you've got gigs coming up, take time away from making records and dedicate time to being prepared for a set or live show. Sort out playlists, make edits, prepare for different crowds etc. I really feel like so much of the work is done before the set. And showing up feeling really confident you've done your homework really comes across, too."

14 What about studio advice?

LT: "First, make sure you're showing up and putting the time in. There's thousands of people that would *kill* to make music for a living, so don't forget that. If you're not focussed and putting time into perfecting your craft, someone who wants it more will come and get it. Second, figure out your process and stick to it. I like to go into sessions prepped with loads of songstarters to vibe with. Find your way and stick to it."

15 And do you have any other advice from the industry that you can pass on?

LT: "Be resilient, embrace rejection and stay humble. The music industry is a relationships business. If you want long-term success be nice to people and work hard."

16 What do you have planned?

LT: "2023 is going to be a big year for me. I love making records and not overthinking it, so I plan on putting a lot out. I've got collabs coming with both Sonny Fodera and Paul Woolford followed by some new solo records. I'm really excited about this year, I feel like I'm sitting on some of the best records I've ever made." **cm**

Lewis Thompson's latest release is out now on RCA, called Enchanté. *"It is my second single as a solo artist following* Take Me Back *with David Guetta last summer. It's got the amazing Clementine Douglas on vocals. Hopefully you are all hearing it on radio and streaming platforms right now!"*

HEAR MORE

Take Me Back (with David Guetta)
bit.ly/CM_TakeMeBack

Enchanté
bit.ly/CM_Enchante

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facebook.com/LewisThompsonMusic

Tempo
Marker
GUITAR
SHAKER
HI STRING
A SECTION
Track 2 Recording 1
B SECTION
GUITAR Recording 1 [take 9]
SHAKER Recording 1
Track 1: RetroMod LoFreq Classic
SH-101 Bass 18
LOFREQ CLASSIC
COMMON
OSCILLATORS
MAIN OSCILLATOR
OCTAVE
SEMITONE
CENT
RING MOD
UNISON
ANALOG
MONO
PORTAMENTO
LEGATO
GLIDE
EXTRA OSCILLATOR
LEVEL
FM
PITCH
PAD
FILTER & AMP
AMP ENV
ATTACK
DECAY
RELEASE
VEL
EXTRA FILTER
CUTOFF
RESONANCE
LP 6
LP 12
LP 24
ARPEGGIATOR
LATCH
EXTERNAL
120.0 BPM
1/8
CLOCK
UP
MASTER
OUTPUT
FX
AMOUNT
TUNE
BEATS
BASS
GUITAR
SHAKER
Beat Machine 1 CM
Volume & Pan Plugin
Level Meter
Chorus
8-Band Equaliser
MIDI Clip - "DopeVST Hip Hop - 10 - 90"
Name:
DopeVST Hip Hop - 10 - 90
Start:
Length:
End:
Offset:
Show/Hide MIDI Editor
MENU
Redo
Edit
Automation
Snap-to-grid
Track
View
Actions
Loop this Clip
Remap on Tempo Change
Show Note Expression
Delete MIDI Content
Convert to Step Clip
Render Clip
Move Clip
Create Preset
Identify Key
Delete
MacBook Pro

Make a track with TRACKTION WAVEFORM FREE 12

All of the tools and tips that you need to make great music with this month's free software and synth, in one handy guide...

> At *Computer Music* we love to bring you the best in free production tools, and this month, not only are we taking a look at Tracktion's Waveform Free 12, we're also offering you a free copy of its RetroMod LoFreq Classic soft synth (normally $79). That's right, double free!

Waveform Free 12 is Tracktion's impressively equipped and upgradeable free DAW. It has an awesome feature set that includes excellent onboard effects, instruments, utility plugins and content, plus its flexible new browser makes finding stuff a cinch. It's cross-platform friendly (OS X, Windows and Linux) and also supports VST, VST 3 and AU plugin formats, so you can integrate your favourite third-party plugins.

Unlike some free DAWs it has no track count, saving or exporting limitations, and the included content is completely copyright free, so you can use the music you produce without restrictions. What's more, if you like what you see and want to upgrade but aren't ready for the full Pro edition, there are now three paid-for feature expansions: Recording Engineer, MIDI Producer and Synth Pack.

To showcase its feature set we've put together a two part tutorial. Part 1 shows you how to get up and running with Waveform Free 12, including how to claim, register and install your free copy of RetroMod LoFreq Classic. Part 2 picks up the creative baton, showing you how to approach some classic electronic genres. The tutorials use Free's included content and the LoFreq Classic synth. But we've also thrown in some *Computer Music* Plugin Suite content, which can be downloaded at bit.ly/cm319downloads. If you want to take things to the next level, head over to www.tracktion.com where you'll find sound packs, instruments and of course the flagship Waveform Pro 12.

First steps

Get to know Tracktion Waveform Free's intuitive layout before taking your next steps…

BROWSER PANEL
Use this as a tabbed panel or open multiple tabs as panes

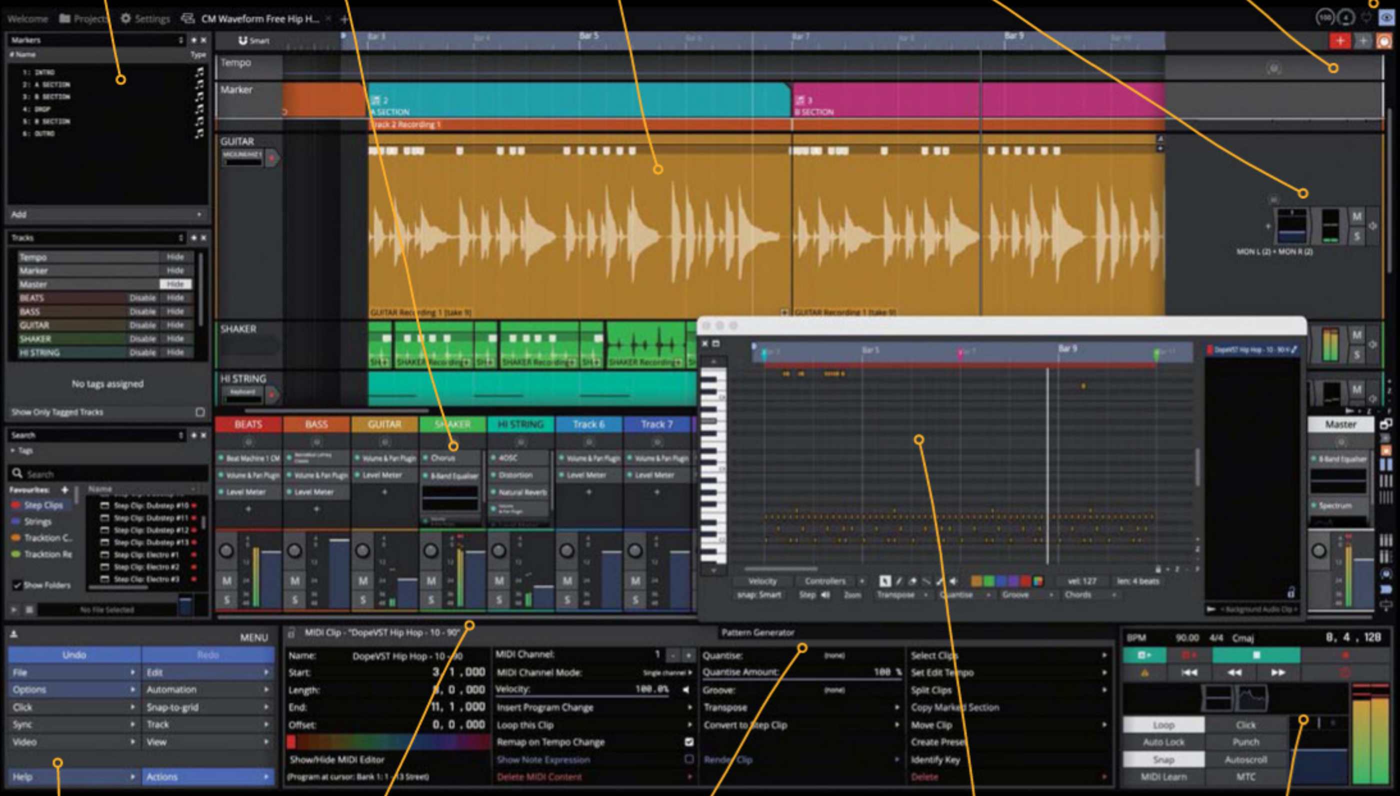
MIXER PANEL
Open the main Mixer Panel for a traditional mixer layout

WARP EDITING
Use the FX icon to activate clip-based warp time editing

INLINE MIXER
View and modify Waveform's track-based inline modular rack environment

CREATE
Drag and drop these three key icons to create plugins, clips and modifiers

EYE
Click on this icon to open and close the workspace panels selector



MENU
You'll find Waveform's main menu at the bottom left-hand side of the Controls Panel

CLIP PARAMETERS
View and edit clip parameters from the Controls Panel

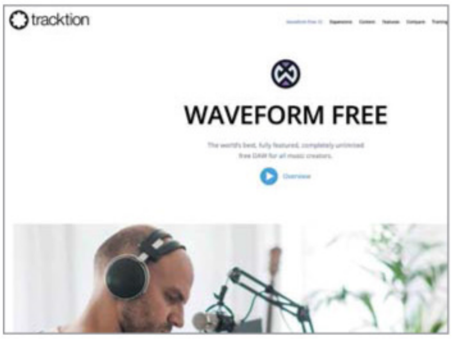
PATTERN GENERATOR
Use the pattern generator for arpeggios, chord progressions, basslines and melodies

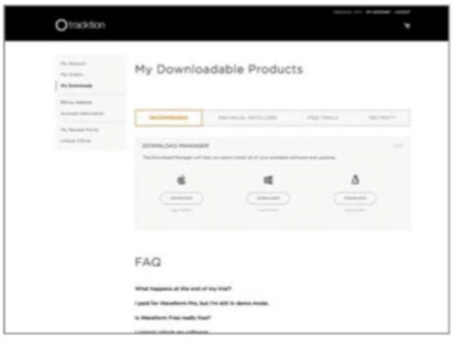
MIDI EDITING
MIDI can edit directly in the Arrange panel or in the MIDI Editor panel, which can also be undocked as you wish

TRANSPORT AND MASTER SECTION
Control key transport features and edit the master output filter chain

> Step by step

1. Install and activate

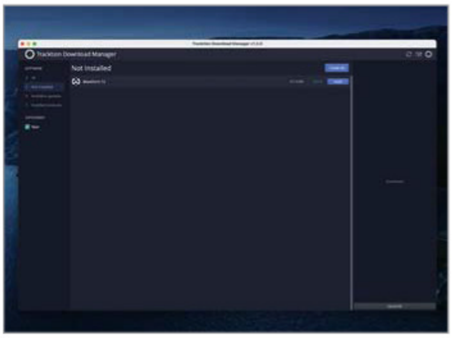




1 > Waveform Free is a feature rich but lite version of Tracktion's flagship Waveform Pro, and it can be freely accessed from Tracktion's website. To get started head to www.tracktion.com/products/waveform-free and click on the Free Download tab.

2 > Here you simply provide your name and email address, and once submitted they'll send a confirmation email. In the email, click on the enclosed link and then continue to set up your account from there.

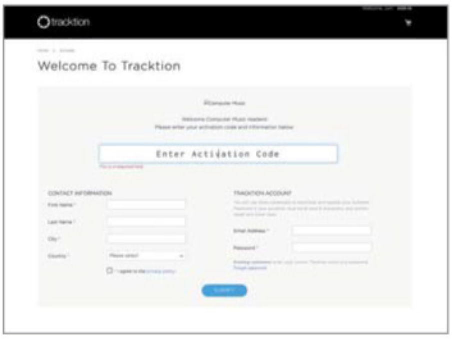
3 > Next, log in to your account and head to the My Downloadable Products page. Here you should see a tab of individual installers including Waveform 12. However we suggest you grab the Download Manager application. Choose the required platform (Windows, OS X and Linux), download and run the installer.



4 > Launch the Download Manager. This will ask you to log into the Tracktion account that you set up in Step 2, and you'll then see your available products, including the Waveform 12 application. Select 'Install' and the manager will download and install Waveform 12.

5 > Now launch the Waveform 12 application. You should see the Waveform 12 splash screen with the Free banner and your account registration information. On the first launch you'll also need to accept the end user licence agreement. After this you'll find yourself in the Welcome page.

6 > Waveform Free 12 should automatically authorise, but if it doesn't, select the About tab on the Welcome screen, choose unlock and log into your account. You can also open the Licensing tab on the Settings page to view and refresh any of your licences.



7 > Installing LoFreq Classic is a two-stage process. First you need to grab your own serial number. Head to bit.ly/cm319downloads where you'll find the Free Tracktion Software CM instructions. Then register your code at www.tracktion.com/cmpromo.

8 > Once again, launch the Downloads Manager app and you should find your synth and its associated content listed. There will be one plugin to install and two content bundles. Once completed, you can also check within Waveform's settings page that the plugin and samples are installed.

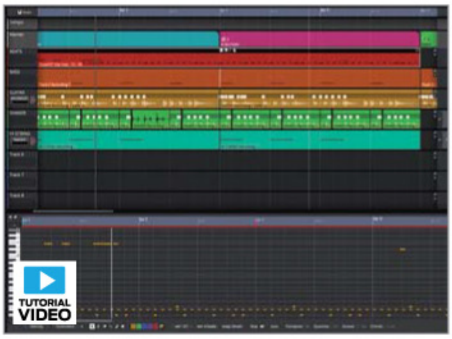
POWER TIP

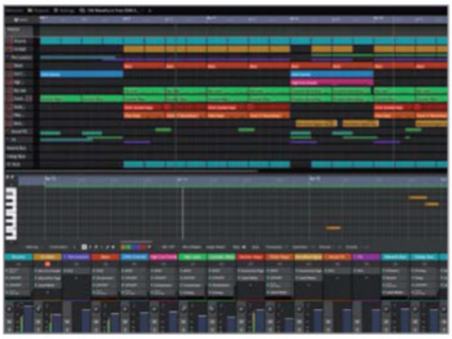
>Expansions

Waveform Pro 12 is the upgrade from the Waveform Free 12 version discussed here, and there's a generous 90-day free trial. However, Tracktion also offer three targeted expansion packs for Waveform Free 12. Recording Engineer ($50) expands the recording, editing and mixing options with tools like edit groups, strip silence and track snapshots. MIDI Producer ($50) focuses on creative tools with enhanced step clip features and advanced MIDI such as event list, knife tool, drum grid and fold. Finally Synth Pack ($30) adds all the Pro synths – Subtractive, Bass OSC, Multi Sampler and Drum Sampler.

> Step by step

2. Familiarising yourself with Waveform Free

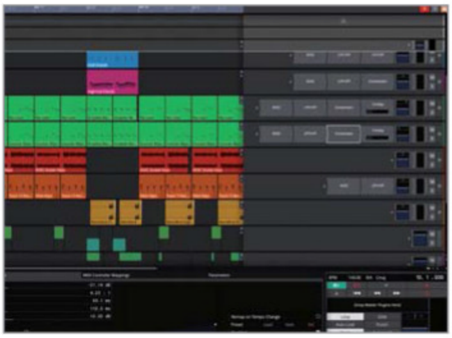




1 > Waveform is very easy to use, but like all DAWs has its own specific approach to certain aspects. Over the next few pages let's familiarise ourselves with the interface and look at the basics of setting up projects, edits, programming, recording, editing and mixing.

2 > Waveform Free includes a bunch of task-specific project templates with preassigned tracks and demo parts. If you've never used Waveform before and want to familiarise yourself with the features, these are an excellent place to start. You'll find them at the top centre of the Welcome screen. Here we've used the EDM template.

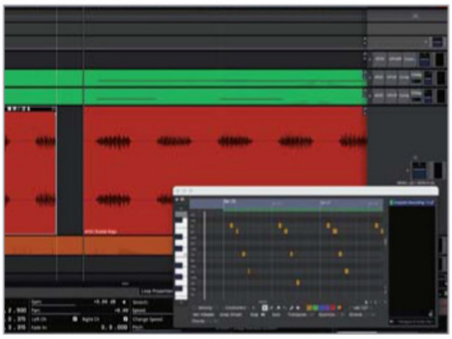
3 > With your new project created and saved, you should now have a fresh Edit open in a new tab at the top of the screen. Any additional Edits saved within the Project creates further tabs, allowing easy switching between them. Use the neighbouring tabs to return to the Welcome screen or Projects list.

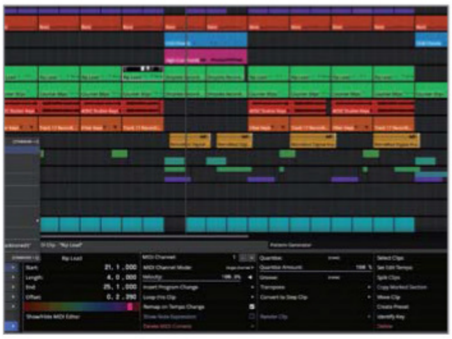


4 > Waveform's workspace is centred around the Arrange area and this is flanked by various further foldaway panels. For an overview of available panels and to switch between them, use the Eye icon in the top right corner to reveal the panel selector.

5 > Waveform's overall layout looks reasonably familiar but does have some interesting aspects, such as the Inline Mixer on the right hand side. This is a key component of Waveform, and uses a very flexible modular approach to processing. Between the Arrange panel and Inline Mixer is a divide line. Drag this to the left to reveal all components.

6 > You'll see chains of modules. The arrow-like shape of the blocks indicates the signal flow direction. Many of these are labelled and if you click on one, Compressor for example, the corresponding processing window opens for editing. To add more plugins, drag and drop the grey plugin icon from the top right corner into the Inline mixer.





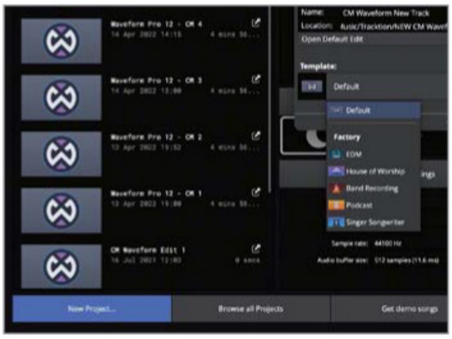
7 > Editing in Waveform works in two ways. Both MIDI and audio clips can be edited directly in the Arrange area, and zooming right in reveals the features. Meanwhile MIDI clips can also be edited using the MIDI Editor panel just below the Arrange panel, which you can also undock .

8 > On the left of the Arrange area is the Browser, which can be opened via the View menu or from the Eye panel. It also includes a handy cursor-sensitive auto hide option. The tabbed Browser allows you to browse and search files and activate/hide tracks.

9 > Finally, if you're looking for menu options including file saving, editing, new track creation or Waveform's many Action macro commands, you'll find these in the Controls Panel at the bottom – use the little arrow icon at the bottom left or Eye panel selector. The panel also includes inspector-style parameter details for the currently selected clip or plugin.

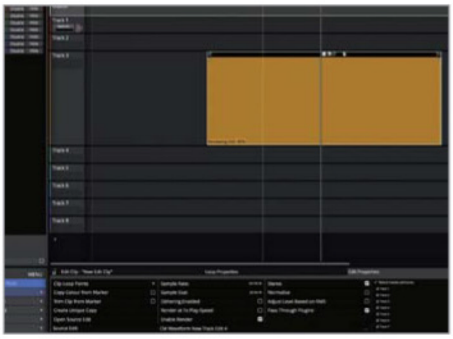
> Step by step

3. Projects, clips and editing



1 > Click the New Project tab at the bottom left. This time, choose the Default template from the drop-down menu and select the Create Project tab.

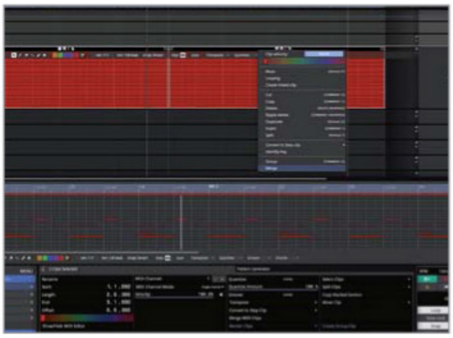
2 > The default Edit has eight tracks. Unlike many DAWs, tracks are not function-specific, so they will become whatever you add to them or record in them. To add a blank clip without recording drag the red plus icon onto a track. It will give you a choice of clip types – Audio, MIDI, Step and Edit.



3 > The first three of those clip types are pretty standard. Edit, meanwhile, is something that's rather unique to Waveform. It allows you to embed into the arrange area other Edits from the same Project. It renders them as audio and you'll see in the details panel at the bottom a corresponding tab for Edit Properties.

4 > Now let's add a couple of parts. In the properties section at the bottom, click on the Tempo and use the slider to adjust it. We've gone for 124bpm. First we're going to add a beat. Grab the grey plus plugin object in the top right and drag it onto Track 1.

5 > From the Waveform Instruments menu choose the Micro Drum Sampler. Select the Micro 909 preset and create a MIDI clip using the red plus icon. In the TimeBar at the top of the Arrange area, drag the blue markers to create loop points at Bar 1 and Bar 2. Select looped playback in the transport section.



6 > Double click the MIDI clip to open the MIDI Editor, and at the bottom set the required note length. Grab the pencil tool to draw in some notes. From the Groove menu add some swing. In the Arrange area, right click on the clip and select Duplicate. Then select both clips and from the right click menu select Merge.

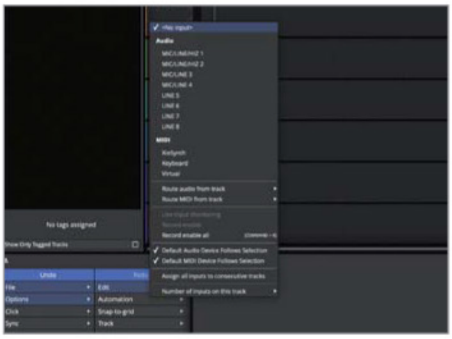
7 > Now let's add a bass part. Drag the plugin object onto Track 2 and add the 4OSC synth from the Waveform Instruments folder. Pick a bass sound – we've chosen Pick Bass WMF. Now create a blank MIDI clip using the red plugin icon.

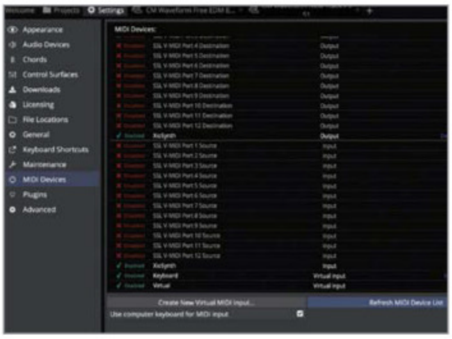
8 > Rather than draw in a part, why not try the excellent Pattern Generator? With the MIDI clip selected, head to the Properties panel at the bottom and select the Pattern Generator tab. Choose the drop-down Pattern Style option and select Bassline. With this open, you can select a progression preset or create your own using the progression blocks.

9 > Finally, choose a pattern from the Bass Preset menu – we've chosen EDM 1. You can further adjust the overall octave, velocity, scale and gate time for the MIDI part and of course set a different scale if required. And you might decide, once the pattern is up, that you want a different chord progression.

> Step by step

4. Recording and modulation

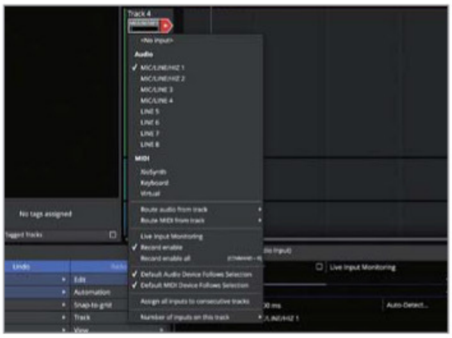


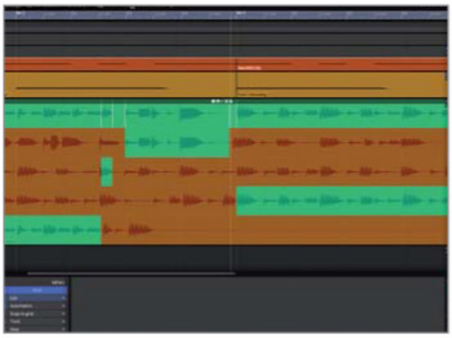


1 > Recording MIDI or audio in Waveform Free is straightforward. You have no track limits to worry about and input choice defines the track type. Click the input selector at the left-hand end of a track. This shows your available MIDI and audio inputs. If they're not available there, double-check the Audio and MIDI Devices tabs in Settings.

2 > In MIDI settings you can also activate the computer keyboard for MIDI input. This is what we've done. Now with Caps Lock active and the MIDI Virtual input selected, we can use the computer keyboard for MIDI input, using Z/X for octave selection, and C/V for velocity.

3 > To start recording, simply activate the red track arm button next to the input selector and hit record in the transport section or keystroke 'R'. Here we've loaded up an instance of 4OSC, chosen a pad preset and recorded in a keys part.

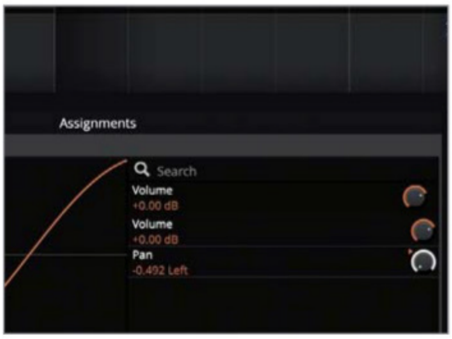




4 > To record audio we simply select an interface input. Note that you can also record MIDI and audio from existing tracks, simply by selecting the Route from track options in the input selector. We've selected the Hi Z input, ready to record a guitar DI. Check out the Properties Panel at the bottom, for options including digital gain or threshold-dependent recording.

5 > With everything set up, you can simply arm the track and hit record. However, if we set up loop points and activate Loop – we've gone for a four-bar section – we can record multiple takes. When you hit stop, click on the plus icon in the bottom right of the clip to see a list of takes.

6 > For quick comp editing, select the Show Takes option. This folds open all the takes into lanes below. You then simply use the cursor to highlight the sections you want. Once happy, you can simply Hide the takes again, which leaves the option to return to the comp later.



7 > Waveform includes a powerful and easy to use integrated modulation system. To get started, drag the orange Track Modifier object in the top right onto the plugin you want to control and select the LFO button. From the parameter list, choose a target parameter. Here we've simply selected the Pan in the Volume and Pan plugin.

8 > You'll now see a small red animated icon in the Inline mixer. Click on this and it opens the modulation parameters in the bottom Controls Panel. Here the LFO Modifier tab includes speed, shape and depth options as well as a visual representation of the LFO.

9 > In conjunction with setting up your LFO, you can use the Assignments panel to view and edit the specific target parameter depth and offset. Also, try dragging the red animated icon from the Inline Mixer onto another plugin. This allows you to control multiple targets from one modifier. To demonstrate here, we've added the Volume.

> Step by step

5. Mixing, mastering and exporting

1 > Mixing, mastering and exporting are the final stages of a production and they're all well supported in Waveform Free 12. As you move towards mixing your track, there are plenty of features to help you get organised. The Marker Track, for example, is available from the Eye panel or the Global Tracks part of the View menu.

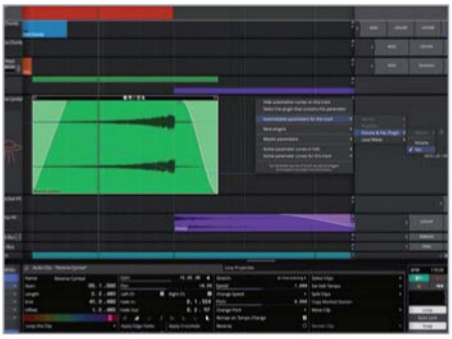
2 > Drag the clip object in the top right to the desired position and choose the bar and beats option. Just like clips, markers can be resized, named, copied, coloured and so on. They are also numbered and simply by typing the number and hitting enter you can quickly jump to your desired section.

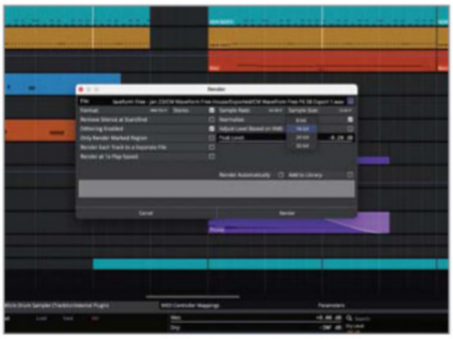
3 > You may also want auxiliaries for reverbs and delays. You need to create these from scratch but it's very easy. Use the grey plugin object to add Aux Sends to the Inline Mixer before or after the Volume plugin. Then create new tracks for each of your effects returns, adding an Aux Return plugin followed by your effect.

4 > You can adjust send levels directly from the Inline Mixer plugins. Meanwhile, clicking on the send and return plugins reveals their respective parameters at the bottom. Here you can name busses and also change the bus assignments. Finally, right click on the track solo button for the return track to reveal the solo isolate option.

5 > When it comes to processing, Waveform Free has a good choice of plugins. There is some duplication (there are multiple EQs for example). Even so, the 8-band EQ with resizable window, integrated frequency analyser and stereo, dual mono and mid/sides processing is particularly good. Here we've loaded up an instance using its Phat Low preset.

6 > For dynamics processing you have a simple but reliable Compressor plugin. This includes a graphic display for setting threshold and ratio and also includes an external side chain. Meanwhile for flavour there's an excellent distortion plugin with six modes. Here we've loaded the Tube preset on our filter synth.





7 > Now let's add automation. Select the 'default automation for each track' option from Menu/Automation. Then use the A icon on each track to view the active parameter curves and add further automatable parameters. Click on the curve to create and adjust nodes and make sure the green A play icon is active in the transport.

8 > To add master effects we use the master output filter chain just below the transport in the controls panel. Drag the grey plugin icon to this area or right click it to launch the plugin selector window. Here we've loaded a typical mix bus chain of EQ, compressor and limiter, all from Waveform Free's stock plugins.

9 > With your mix complete it's time to render the output. This option is in the File menu, Export: Render to file. The dialogue includes many settings including a good choice of file formats, sample rates and bit depths. Meanwhile for project sharing you can actually render all of the tracks individually.

> Step by step

6. Getting to know LoFreq Classic

1 > RetroMod LoFreq Classic is a sample-based synth instrument and once installed you can load an instance using the grey plugin icon or directly in the InLine Mixer. You'll find it in the Tracktion folder and there may be multiple versions, which simply represent the different plugin formats (VST, VST3 and so on).

2 > It covers synths from the period 1974 to 1995 and, as the LoFreq name suggests, focuses on bass sounds. There are 11 source synths including Roland TB-303, Korg MS-20, Oberheim SEM, ARP Odyssey and Novation BassStation. With more than 350 bass-specific patches, LoFreq Classic is a treasure trove of awesome sounds.

3 > The resizable interface is really easy to use and features three tabbed windows – browser, synth and effects – accessed at the top next to the preset display. The sample plus synthesis engine provides plenty of core editing flexibility, XY pad control and sound finessing using the 4-band EQ and four effects modules.

4 > Let's run through some of the synthesis options. Head to the browser to load a preset. You'll see the presets are grouped by source synth and there are also character options. These can both be used to filter your choice and presets can also be searched by name. We've loaded preset SH-101 Bass 16.

5 > Now returning to the main synthesis page you have a familiar selection of options. Over on the left, these include playback mode, and our preset is set to monophonic with legato and portamento. Here you'll also find Unison (up to 16 voices) and Analogue, which introduces subtle random pitch variation.

6 > The main sound of each preset is provided by the core samples for each oscillator. You can adjust pitch, and also blend in a second oscillator, with adjustable ring modulation between them. For tweaking there's also frequency modulation, a basic ADR amplitude envelope and low pass filter. This main page hosts master settings on the right.

7 > For further changes there's a decent arpeggiator and also an XY Pad. For the pad you have three options for each axis. FM and ring modulation are available for both, with filter cutoff for the Y axis and drive for the X axis. This is a great tool for both tweaking and more creative changes.

8 > On the effects page you'll find a good 4-band EQ with editable graphic display. Many of the factory presets are EQ'd – check out this MS-20 patch. Meanwhile there are four effects modules with a choice of nine types including distortion, reverb, chorus and compressor. The overall effects bus is blended using the global FX mix blend on the main page.

9 > If you've made lots of edits and want to add your creation to the library, simply click on the save button to the right of the preset display. Also note that at any time you can also edit the preset information including name, style and description by opening the instrument information field using the I icon.

CYBORG
ARTURIA MS-20 V PRESETS
KORG MS-20 V
Audiotent - Cyborg
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Sequencer
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ARTURIA
KORG
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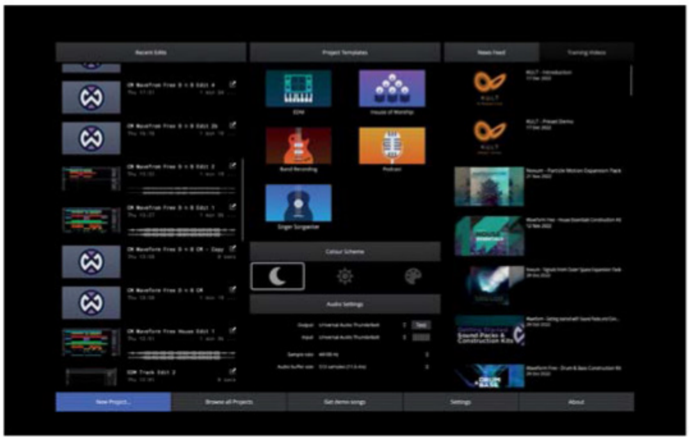
Complete this short tutorial and David Guetta-level God-like status may await you

MAKE A TRACK

House

A combination of Waveform Free's Micro Drum Sampler and this month's free plugin will get you well on your way to dancefloor domination

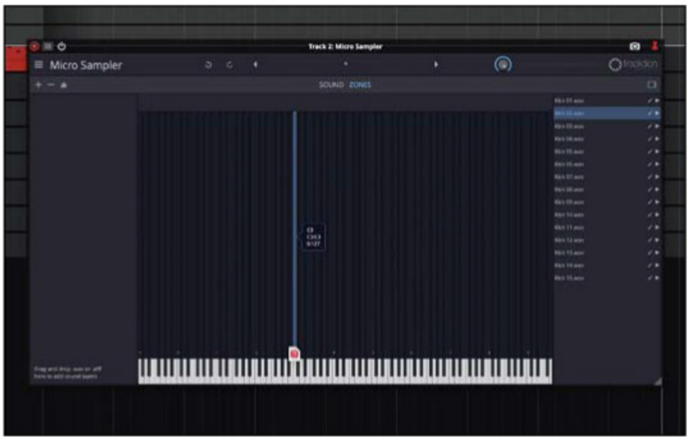
> Step by step 7. Make a house-style track



1 > House comes in many forms but pretty much standard throughout is a driving four-to-the-floor beat coupled with a rhythmic bassline, harmonic content from keyboards and guitars and some kind of vocal topline. Although there are plenty of sub genres, here we're keeping it mainstream, building an instrumental beat from scratch.

2 > Start with a fresh Default project. This should have eight ready made tracks. In the transport section set a suitable tempo (we're going for 126bpm). Let's start with the beat. From the plugin menu, load up an instance of Micro Drum Sampler then head to the Browser and find some suitable house-style clips.

3 > We've loaded the Disco #16 clip, which we've then edited slightly to create a pretty straight-up house beat. However, we definitely need a different kick sound. To achieve this we're going to use the Micro Sampler and some CM Suite samples. Load the Micro Sampler up on the next track.



4 > For sounds we've headed to bit.ly/cm319downloads and the Drum Machine Groove Hits folder (in the Cover Feature Audio Files folder). Once downloaded, you can drag prospective samples into Micro Sampler's foldaway Scratch Pad panel on the right to audition them, and then drag the required ones directly into the Zones page ready for triggering.

5 > We've loaded up a few kicks to single keys and set their playback mode to Fixed Pitch. Now in the Arrange area, convert the Step clip to MIDI (right click on the clip for the option) and then copy it to the track below. Edit both clips so the new Micro Sampler track only plays the kick.

6 > Now we need a bassline. Load up the LoFreq Classic instrument using the plugin icon (the instrument is in the Tracktion folder) and grab a suitable preset (we've loaded up CS-30 Bass 09). If you're happy doing it, program in a part. If not, try the MIDI pattern generator.

7 > Piano is an important component of mainstream house. For a decent core piano sound, load up the Rompler plugin and YPD Grand Piano preset. We've programmed in a 4-bar chord pattern that works with our bassline. Again, alternatively you could use the MIDI pattern generator.

8 > Finish up the elements with some percussion (we've added a conga pattern and a crash). These samples are from the same CM Suite folder and once again we've loaded them into the Micro Sampler. We now have the basics of house track that can be structured, processed and mixed.

9 > We've set about creating a proper structure and finessing the sounds. Key choices here include EQ and delay, specifically for the piano, and reverb for the congas. We've also introduced more variation into the beats programming and added master output effects.

Look into my eyes: Armin Van Buuren was the king of trance… but not that kind of trance

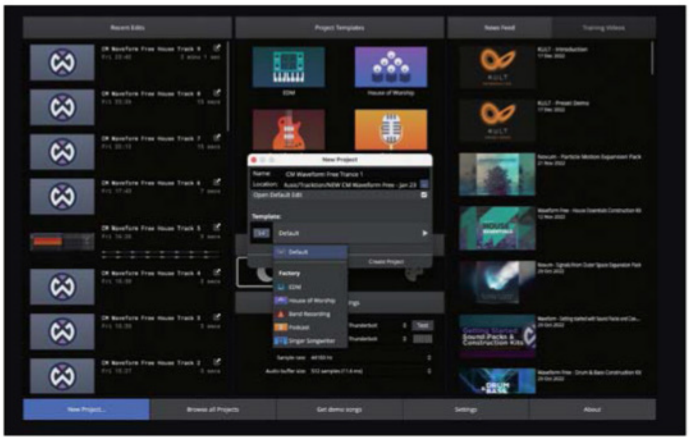
MAKE A TRACK

Trance

Explore Waveform Free's arpeggiation and effects features a little deeper with this easy guide to dance music's most hypnotic sub-genre

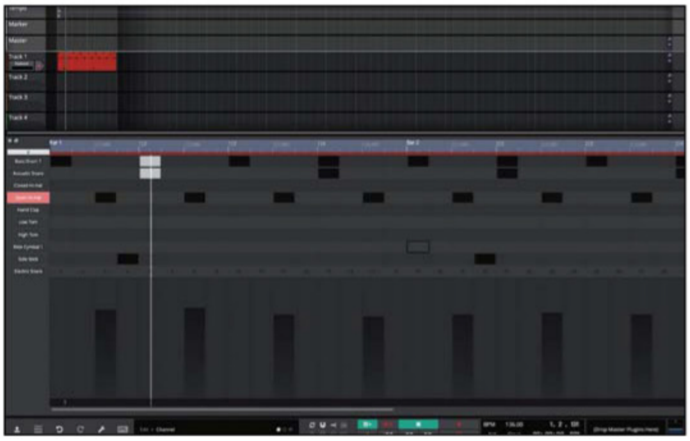
> Step by step

8. Making trance with Tracktion

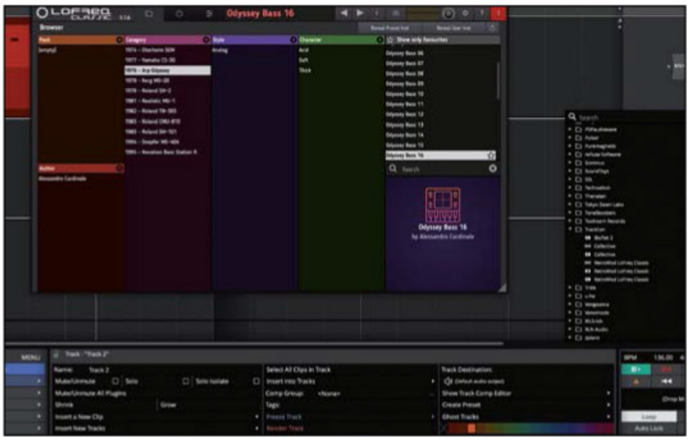


1 > Trance is a techy dance genre with an emphasis on synth sounds, crisp beats and driving basslines. More often than not, you'll also find arpeggiated synths, bold riffs and plenty of effects. To get started, create a new project using the Default option.

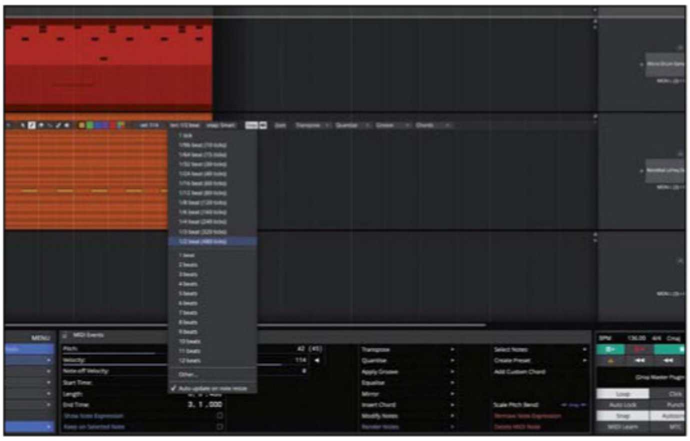
2 > Trance tempos are faster than house and we've set ours to 136bpm. For our beat, we're going to load and edit a step clip. From the Browser we've chosen Techno #12, dragging it to track 1. Then we've loaded the Micro Drum Sampler, selecting the preset Micro 909 kit. Now double click the step clip to edit the pattern.



3 > Editing step clips is very easy as you simply click on beats in the grid to activate and deactivate them. Here the pattern is too busy and we've swiped along the closed hi-hats track to remove them. We've then programmed the open hats on the 1/8ths between the main quarter notes and replaced the claps with snare hits.



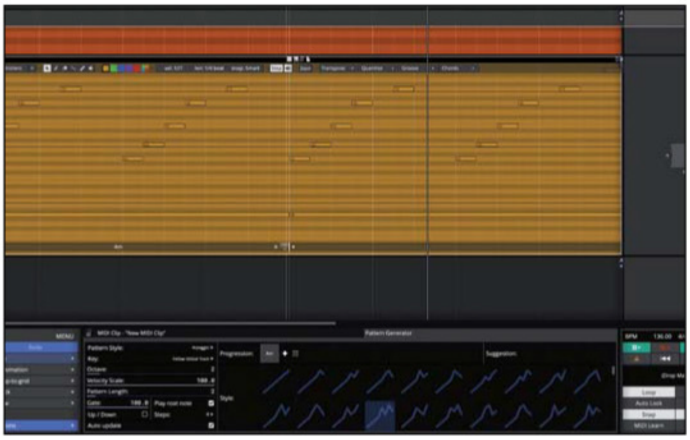
4 > Now let's program a straightforward offbeat bassline. Much like the open hi-hats, this will play on the 1/8ths between the main quarter notes. On a fresh track, load up the LoFreq Classic synth from the Tracktion folder and find a suitable sound. We've gone for the punchy Odyssey Bass 16.



5 > Next drag in a new MIDI clip and adjust its length to two bars. One of the great features in Waveform is that you can edit MIDI in the Arrange area. Zoom in on the clip and your cursor reveals the edit options. We've set the note length to half a beat, using the pencil tool to add notes (pitch A).

6 > Waveform has a great pattern generator that can create many things including arpeggios and it's this we'll use it for. First, we need a synth. Load up 4OSC from the Waveform/Instruments folder and select a suitable synth preset – we've loaded up Storyteller. Grab a new MIDI clip and make it two bars long.

7 > Now click on the Global track at the top (use the Eye menu in order to reveal it) and set the key signature in the parameters panel – we've set ours to A minor. Select the new MIDI clip and the Pattern Generator tab in the panel at the bottom. From the Pattern Style menu select Arpeggio.



8 > To define the notes used for the arpeggio click on the plus icon – we've selected A minor triad. Now set the Pattern Length to 2, Steps to 8 and Octave to 2. This should create a 16ths pattern. Next, click on the many blue Style icons to get a pattern you like.

9 > We now have the basics to start building a full track arrangement. Here we've copied or looped our MIDI to create a 64-bar section, adding a high string, a synth riff and a 16ths shaker part. Then we've added a drop section with a filter plugin on the synth riff, using the automation to control the filter cutoff.

Chase & Status raked in the dough with their take on DnB

MAKE A TRACK

Drum & bass

It's the perfect time to get down to business with your bass, in our exploration of this hard-hitting musical style

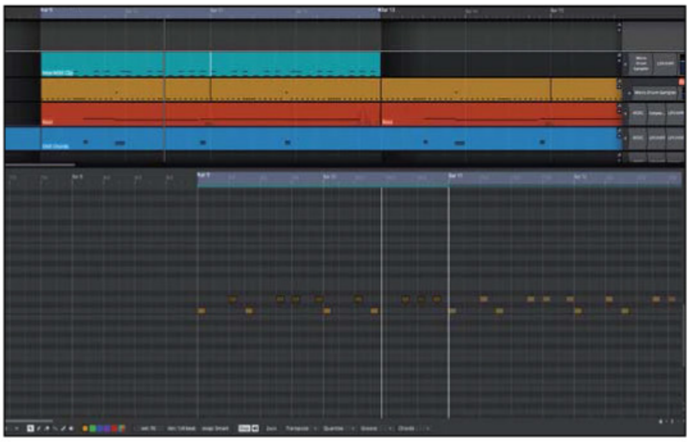
> Step by step

9. Make a drum & bass track

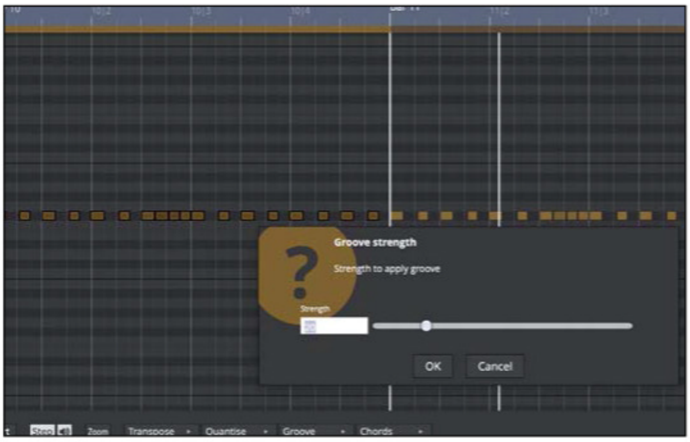
1 > For our drum & bass track we'll start with the EDM template as it has a few sounds we can make use of. Select this from the Welcome screen, creating a new project. Next, delete the three used automation parameters. Using the A icon select 'Active parameter curves in Edit', using backspace to delete each of the three parameters.

2 > The tracks we want to keep are Bass, Drums, Hi-Hats, Filter Keys, High-Cut Chords, FX, SC Kick and Chill Chords. We'll keep the other tracks as we may use them later, and the easiest way to do this is to use Waveform Free's Browser Tracks list. All you need to do is hit the Disable button for the unneeded tracks.

3 > Now select a drum & bass tempo – we've set ours to 170bpm. The first thing we're going to work on is the beat. Select and delete the existing clips on the Drums track. Next, open the Browser panel and select the Search tab to look for and drag in a suitable MIDI clip. We've loaded Step Clip DnB #8.



4 > Start with a 4-bar section, muting all tracks apart from the Bass and Drums. Right click on the DnB step clip selecting 'Convert to MIDI clip' and looping using the L clip icon. Double click the clip to open it in the MIDI editor and move the clap notes to the snare. Select the '909' Micro Drum Sampler preset.



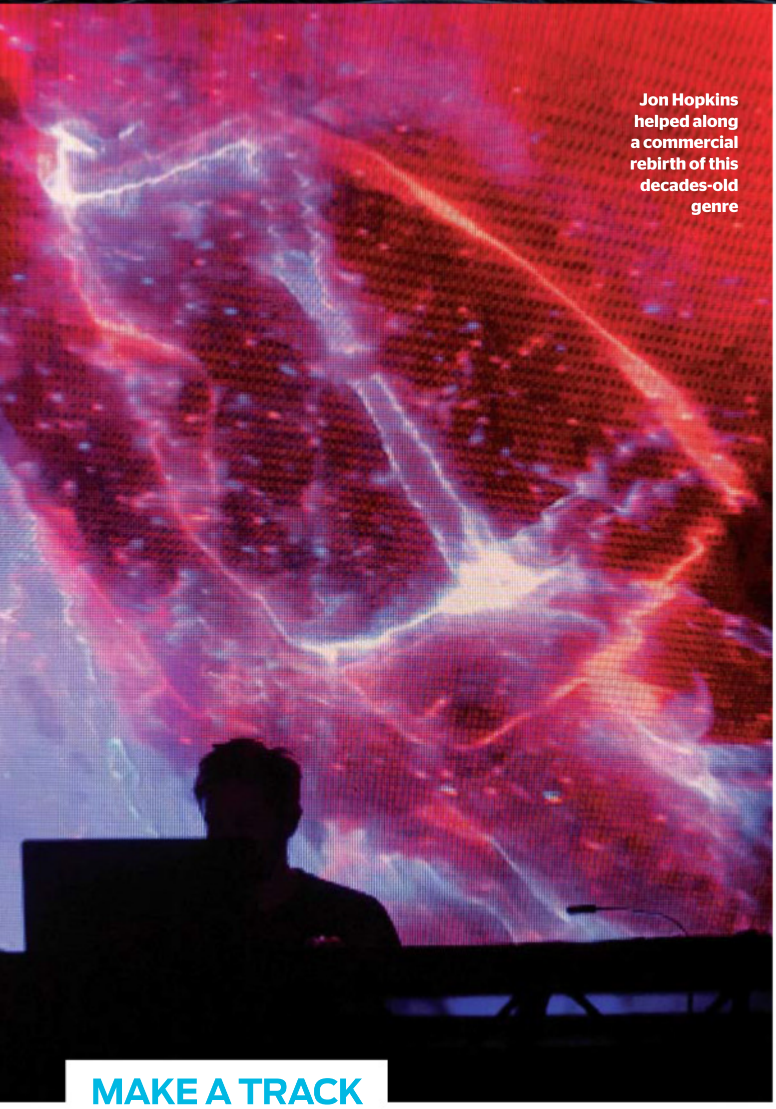
5 > Next unmute the Hi-Hats track, select the first clip, delete the second clip and once again convert it to MIDI with loop active. Edit the hi-hat part in the MIDI editor. We've simply moved the open hi-hat note to the closed hi-hat sound. We've also added a small amount of ¼ note push swing which is in the Groove menu.

6 > Let's add a reverse cymbal effect at the end of the 4-bar section. There is already one in the FX track. Unmute this folder track, and unfold it using the arrow icon to the left. We've muted the Thump effect (right click 'Mute') and moved the Reverse Cymbal so it ends correctly. To finesse, trim the start point.

7 > With beats and bass sorted for a 4-bar section, unmute the remaining tracks and start to create some kind of structure. We've set up a 64-bar section, building up from beats to include bass, keyboards and effects. We've also trimmed the template keyboard clips back to roughly the first two bars for each.

8 > The template SC Kick track provides an independent external side chain. Check this is selected and active for the Bass track compressor. The side chain track Volume should be up and the track muted. Edit the pattern to taste (we've selected beats 1 and 3) and adjust the sidechain level in the compressor as required.

9 > With the track taking shape you can now continue to expand, extend and complete the track. However, the overall sound is a bit flat so we've added some master bus processing – EQ and compressor. Check out the sweetening curve on the 8-band EQ.



Jon Hopkins helped along a commercial rebirth of this decades-old genre

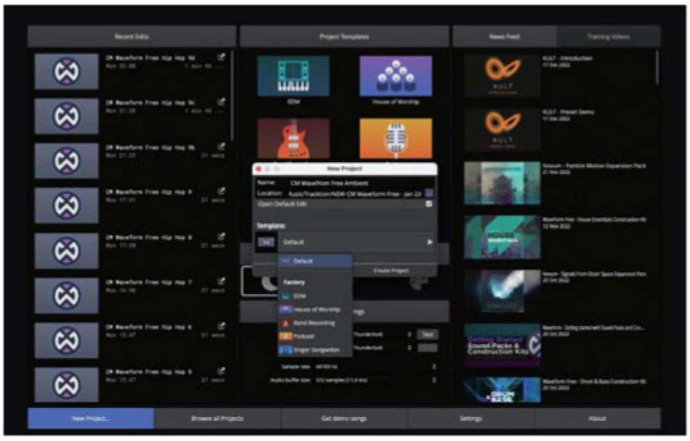
MAKE A TRACK

Ambient

We'll stop *droning* on about Waveform Free soon, but first try out some of the tools it boasts in the area of evolving sounds and the key ingredients of this calmest of genres

> Step by step

10. Making an ambient-style track



1 > Ambient music is known for its evolving textures and spaced out sounds, and Waveform Free 12 has plenty of tools to help achieve this. Here we're going to focus on using its integrated modulation, automation, sound generation and effects to create a drone sound, and using its pattern generator to create chordal pad textures.

2 > To get started, create a new default project. First, we'll create a drone sound, so load the 4OSC synth using the add plugin option. Set oscillators 1, 2 and 3 to Saw, Square and Triangle respectively, then use the Tune control to set them to 0, -12 and -24 semitones.

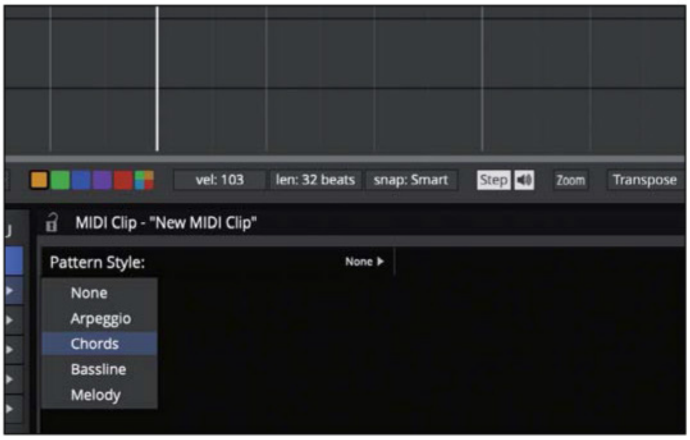
3 > Now in the lower part of the interface select the amplitude envelope (A) and adjust to taste – we've set attack and release to about 20 ms and 3 sec respectively. Also, adjust the oscillator output Levels – we've set 1 and 3 the same and Osc 2 about 10dB lower.

4 > Next, add unison to Osc 1 (we've set it to 6 with 15% detune and 25% spread). Also increase pulse width for Osc 2 (ours is 85%). Now add a low pass filter at 24dB/octave, setting cutoff to 2kHz and resonance at 50%. You'll now have a thick drone sound ready for however you want to modulate it.

5 > We're going to use both of 4OSC's onboard LFOs, which are next to the amplitude envelope. Set LFO1 to Sine and Sync mode, choosing a slow rate such as eight bars. Click the assign icon next to the waveform and cursor over Osc 1 and 2's Fine pitch to apply about +/- 5% respectively. Click the assign icon again.

6 > Now set LFO 2 to a Sine wave and slow rate (about 0.5Hz). Click the assign icon and apply to Osc 1 Spread (about 15%). Next, drag the orange Modifier icon onto 4OSC, selecting Rate 2. Set the Modifier Depth (0.15) and Rate (0.05). The Spread is now changing in a dynamic way over time.

7 > Once you have a drone sound that evolves over time you can use DAW automation to finesse it within your track. One of the best ways is to automate the filter cutoff. Here with some basic MIDI notes programmed we've automated the cutoff gradually over time to create ebb and flow.



8 > Waveform has an excellent Pattern Generator, and in its Chords mode is great for investigating chord sequences. We've started with the 4OSC pad sound Section 2, created a MIDI clip and on the Pattern Generator tab, chosen the Pattern Style 'Chords'. We've then selected the key E Major to match our drone note.

9 > In the Progression section you can select either single chords (+ icon) or progressions (menu icon). We've done the latter choosing the 4 chord V ii IV I progression. The MIDI clip now shows the sequence (one bar per chord) and we can adjust the chord length or the chord itself using the options at the bottom of the MIDI clip.

Drake's productions represent the modern arc of mainstream hip-hop

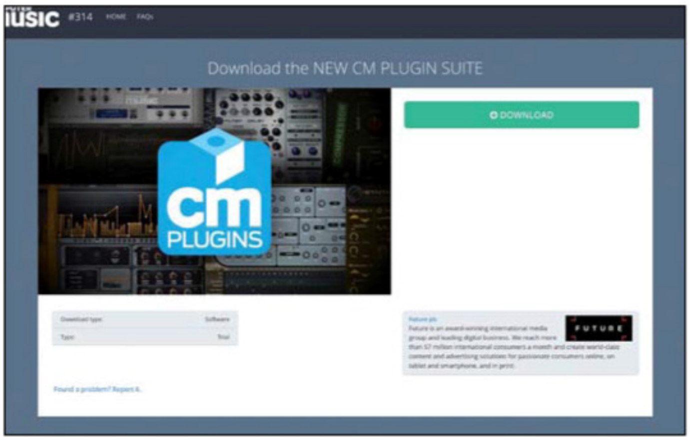
MAKE A TRACK

Hip-hop

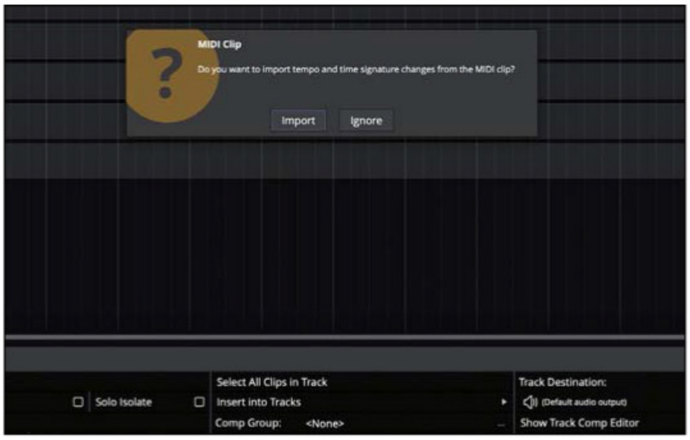
The fluid boundaries of this mammoth genre are obviously an invitation for creativity, but here are some basics to kick things off...

> Step by step

11. Hip-hop basics

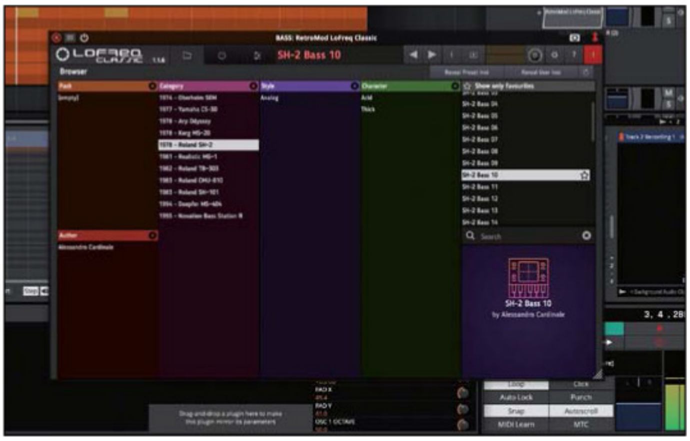


1 > Waveform is fully VST/AU compatible and can import MIDI so you can easily expand its capabilities by using your free Computer Music content. For hip-hop, we recommend DopeSonix' excellent Beat Machine CM plugins and associated MIDI loops. Head to bit.ly/cm319downloads and answer the issue-related questions and grab the CM Suite instruments.



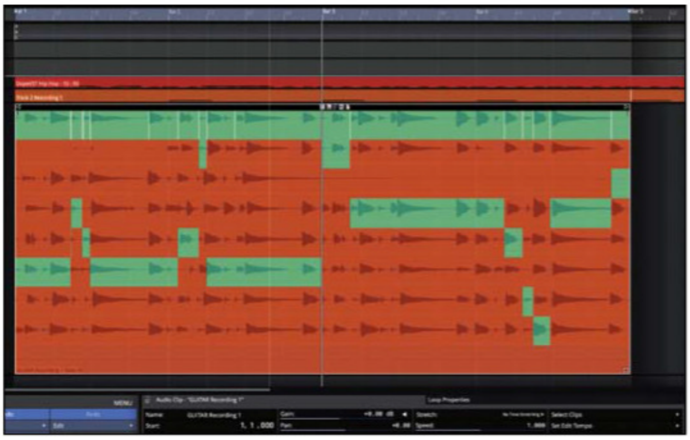
2 > Once downloaded and installed, set up a new default project. To import a MIDI loop head to the File menu. Here we've grabbed one of the DopeSonix beat loops and selected the import tempo (90bpm) and time signature options. We've then loaded Beat Machine 1 CM from the DopeSonix plugin folder.

3 > Next we've paged through the Beat Machine 1 CM presets and chosen Abstract Wayz. These kits are not only simple to use but are also preassigned to match the MIDI loops. We can also, at this stage, balance the component sounds on the plugin, and we've turned down the open hat slightly.



4 > For bass we're going to use the LoFreq Classic plugin, so load up an instance on a fresh track. The instrument has a vast array of sounds and we're after a dark, fat sound with plenty of sub. We've loaded up the SH-2 Bass 10 preset and programmed a simple bass part on the downbeats.

5 > Adding live sounds is a great way to add feel to a hip-hop track and recording in Waveform is both easy and flexible. Choosing an audio input automatically makes the track an audio track. We've set up our loop markers to create a 4-bar section and selected loop on the playback, ready to record some electric guitar.



6 > By recording in loop mode we've created a bunch of associated takes. If you click on the plus sign at the bottom right of the clip you're presented with various options including assigning them all to new tracks. If you select Show Takes it creates a comping layout on the original track.

7 > The comping system is very easy to use and similar to other DAWs. All you have to do is swipe the cursor over the sections of audio you want to use and it highlights it in the same colour as the fully compiled track (green for us). Once done, simply hide the takes again or flatten to make it permanent.

8 > Once you've compiled the best take, there may still be elements of audio where the timing needs adjusting and Waveform Free includes warp-based editing which you activate from the clip FX menu. You can add markers at the top of a clip, dragging them to fix any timing errors.

9 > We've copied our 4-bar guitar section round and have continued to build up the 8-bar loop, recording a live shaker. We've also loaded up the 4OSC synth to add a high string and then used the excellent Distortion plugin to add some grit. This 8-bar loop is now ready to develop into a more extensive track structure.

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Synth Masterclass
with *Dave Gale*

40 The perfect synth pad

Dave Gale digs into Zebra CM and jumbles some fifths and ninths to come up with the perfect synth pad

Mixing
with *Jon Musgrave*

44 Equalising during the mix

Jon Musgrave continues his masterly mix series with an exploration of all things reverb. Three of them in fact…

Download the accompanying video and the MIDI/audio files at bit.ly/cm319downloads

Create the perfect fifths pad

This month, we explore one of the most identifiable pad sounds around. Dave Gale gets his fifths and ninths in order...

Dave Gale

Dave Gale is an Emmy award-winning media composer, producer and orchestrator, with an enormous passion for synthesisers, in all their forms. His varied composing style embraces everything from full orchestral and hybrid scoring, to fully electronic scores, employing synths wherever possible. He also happens to own some of the finest synths in existence but we're not jealous, OK?

> Let's face it, synthesisers were made for pad sounds (except for the ones that were also made for bass, lead or any other sound) – the march of the synth pad is pretty undeniable, and relatively unstoppable. As early synthesisers developed, it didn't take very long for programmers to notice that you could create pretty cool effects by detuning a second oscillator, to play in harmony against the first oscillator.

There are many examples of this in music which exploit early synth technology, but in 1991, a track from the first album by Seal, seemed to bring this concept into a digital age. We say digital, because the wholly identifiable sound used on the track *Violet*, which brings Seal's first album to a close, emanates from the patch called Soundtrack, found on the Roland D-50. Apart from the slightly glistening nature of the sound, which was de rigueur in the late '80s and early '90s, it's the playing of a single note that produced an open chord, known as a perfect fifth.

Anyone who explored this sound discovered that the mere input of a triad resulted in the instant gratification of a much larger chord, known in musical circles as a major ninth. It's a trick that's firmly in play with contemporary artists, so we build our own version of this patch, exploiting the perfect fifth, for perfect results.

> Step by step

1. ZebraCM perfect fifths pad

1 > We'll start by initialising a patch on the ZebraCM. Open up your DAW and load up the ZebraCM plugin. Once the plugin window is open, move to the central display at the top of the window, click to reveal the drop-down menu, and select 'init' from the bottom. This will initialise the patch.

2 > As our patch is going to be relatively loud, it's a good idea to reduce the master volume to a level of 20. Just as a reminder, every time you tweak a pot or setting on the plugin, you will see an accurate value/numeric in the upper display. We'll be referring to these throughout the tutorial.

3 > We start creating our patch with Osc1; leave the Volume set to 100, and the waveform selected as the default Sawtooth. We will, however, change the number of aliased waveforms being produced by the oscillator, by clicking on the number 4, displayed in turquoise, in the upper part of the Osc1 display.

4 > At the moment, Osc1 will be producing a phasing effect, as the four wave forms are piled on top of each other, in the same phase. We thicken the texture considerably by adjusting the Detune control, which we are going to set to a value of 5.

5 > Now we move over to Osc2; we'll use the exact same settings here, so increase the Volume pot to a value of 100, leaving the default waveform set to a Sawtooth. Once again, click on the number 4, to increase the number of aliased waveforms being produced.

6 > To counteract the detuning of Osc1, adjust the Detuning pot of Osc2 to a value of -5. We also want to change the pitch of this oscillator, increasing the Tune pot to a value of 7. This relates to the number of semitones, which should result in Osc2 playing a perfect fifth higher than Osc1.

Download the accompanying video and the MIDI/audio files at bit.ly/cm319downloads

> Step by step

1. Zebra perfect fifths pad *(continued)*

7 > Next, we move over to the filter section; while it is possible to use the vast majority of the filters that the ZebraCM offers, the low-pass filter named LP Xcite is an ideal choice for this patch. Select this filter type from the drop-down menu, within the filter section.

8 > Keeping within the filter section, we need to make two pot adjustments. Firstly, change the Cutoff value to 83, then move to the user-assignable pot, which is currently set to respond to Env2. We will leave this routing intact, but adjust the pot level to a value of 37.

9 > Having dealt with the main components of our patch, it's now time to turn to the envelope section. Beginning with Env1, which controls the amplitude or volume of our patch, set the Attack pot to a value of 60, Decay pot to a value of 50, Sustain to 80, and finally the Release pot to 65.

10 > Env2 is controlling the Cutoff control within the Filter section, but we need to enhance the settings to suit the style of the sound we want. Set the Attack pot to a value of 63, Decay pot to a value of 65, Sustain to 50, and finally the Release pot to 70.

11 > That concludes the creation of our actual synth patch, but we can enhance it considerably with the addition of effects. Try adding a stereo or ping-pong delay to the track, with a relatively generous feedback amount. This value will vary from plugin to plugin, but even DAW-included delays should provide something very usable.

12 > Finally, try adding a relatively generous reverb. You can use any reverb plugin which may be included with your DAW, but adjust the Mix control to provide a greater amount of reverberation. Also, increase the reverb time to a few seconds, which will enhance the sound of our fifths pad.

PRO TIP

VALUE ADDED NOTES

Undoubtedly, one of the most identifiable aspects of this synth patch is its ability to sound huge and lush, with a relatively minimal amount of musical effort. That's what happens when you create a chord-based synth sound, and just play a single note. However, the real magic of this patch comes into play as you explore the tonality of what the patch can really offer. If you need some help with musical direction, consider exploring the basics first. Play a single note, and you will hear two notes play at the same time. Play a triad of C major, using the notes C, E and G, and the resulting chord sounds exceptionally lush, as we also hear the notes G, B and D being played by Osc2. This is known as a major ninth. But if you want to go for a slightly darker sense of tone, change the note E to an E♭, which will switch the chord to a minor chord, or minor ninth, to be musically correct. You can pad things out even further, by adding the root note, which in this case is C, an octave below your triad. Then, you can try moving the same chord shape around the keyboard.

Seal's *Violet* has an early example of powerful perfect fifths…

Rob Verhorst/Redferns via Getty

…and for modern artists, like Jon Hopkins, it's become a staple

RECOMMENDED LISTENING

JON HOPKINS
TO FEEL AGAIN
One of the most groundbreaking of the contemporary crowd, Hopkins' recent track exploits pads against his signature felt piano sound.
bit.ly/jh_tofeelagain

SEAL
VIOLET
A track that arguably inspired the perfect fifth sound, Seal's first album is now regarded as a seminal classic, both in performance and production terms.
bit.ly/sealviolet

Download the accompanying video and the MIDI/audio files at **bit.ly/cm319downloads**

The 3-reverb approach

Choosing and adding reverbs can seem daunting, but this simple technique should get you up and running in no time at all

Jon Musgrave

Jon is a London-based producer, mixer, composer and club remixer with a diverse CV that spans dance, pop, rock and music for media. He's also a long term contributor to *Computer Music*. Whether working alone or collaborating he usually handles final mixdowns, which is why we've got him to share some pearls of mixing wisdom.

> Artificial reverb is a major mixing topic, and later on in this series I'll be looking at more specific single reverb techniques. This month, however, the focus is on some basics and a reliable technique that I use myself very regularly.

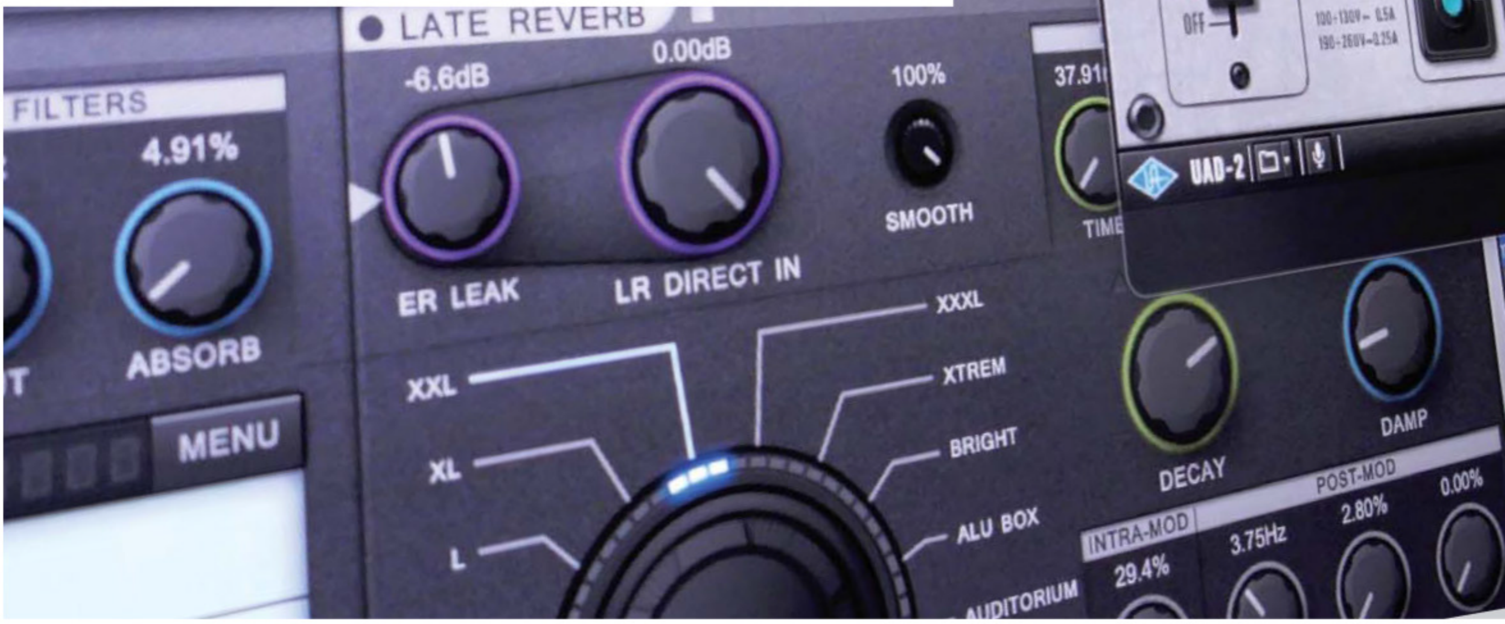
But first, it's important to appreciate that artificial reverb can be used in many ways including creating a common space for elements in a track, adding a specific spot effect, or even in combination with recorded ambiences – drum kits for example.

Next up, genre is important, so reference relevant material (see the pro tip). And remember, you don't have to use reverb at all, and sometimes delays will add the sense of space that you're after.

This technique is an overall approach where you set up three reverbs, which I'll loosely call small, medium and large, each on their own auxiliary. The decay of the reverbs is not set in stone, but in general terms, the small one is designed to help add tight ambience/width, the medium one is a regular, quite rich, room (and probably the reverb you'd initially reach for) and the large one is designed to add a long and coloured space.

Within that framework, look for reverbs that suit your track, combine reverbs if it works and expect to adjust your send levels throughout your mix. And remember, this is an approach and not restrictive, so use what you need and add more reverbs if required.

That's the idea. Let's put it into practice.



> Step by step

Working with three reverbs

1 > Let's try the technique in a couple of contexts. The first is a regular, multi-tracked drum kit and the second is a contemporary track with beats, bass, various synths and some vocals. In both cases, the raw sounds are pretty dry and need some reverb to help the elements gel and deliver a more polished sound.

2 > To get started, set up three auxiliaries and then on the return channels add three reverbs. You can use the same reverb plugin for all three if you like, but I'm personally a big fan of adding variety and here we've loaded a convolution reverb, an algorithmic reverb and a plate reverb.

3 > In terms of decay times, the short one is 0.7 secs, the medium one is about 1.2 secs and the long just over 5 secs, but as mentioned, these are not strict rules, and often finding reverbs where the colour fits your mix is just as important. So, once you get started, if a reverb doesn't fit, try a different preset.

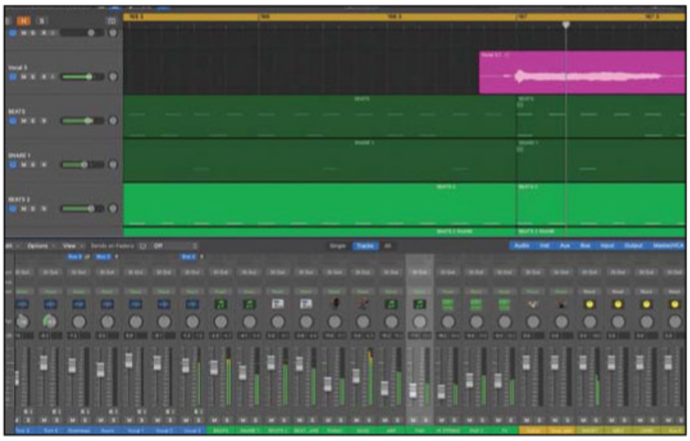
4 > Even if you don't use them that much, acoustic drums are perfect for trying out reverbs and besides, the techniques are universal. Our kit has a room reverb recorded with the drums and we've balanced this conservatively. To add width and depth to the snare, apply some of the short reverb so it's just audible. Mute the send to A/B the difference.

5 > If the snare needs to be bigger, and this will probably depend on the genre, add in some of the medium reverb, but also leave the short reverb active. Remember, each reverb is doing a different job. Here we've also added the medium reverb to the tom fills. Try muting the returns to A/B the difference.

6 > Finally, there can be times when we want the drums to be really big. Rather than head back to the snare and toms, we can leave those as they are and use the long reverb either on the overheads or room blend. Here we've gone for the overheads, and once again using just enough and A/Bing to check.

> Step by step

Working with three reverbs *(continued)*



7 > The great thing about this technique is it works pretty well across multiple sources. Moving onto our track, most of the sounds are pretty dry, including the synths where we've removed most of the onboard effects. We have two snares. Let's start with those.

8 > One snare is crunchy and the other dry and tight. We've tried both and the tight snare works best. Again, using just a moderate amount of the small reverb adds depth to the back beat but keeps it tight. But the sound isn't quite right, so we've swapped out the preset for a similar but slightly longer (0.8secs) preset.

9 > Next we're going to jump to the high string part. We want this to have an ethereal feel and distance, so we're heading straight for the large reverb. The part is balanced quite low in the mix so to create a washy effect the send level can be high.

10 > We have a thick pad sound (Pad 2). This needs more width but we don't want it to be too distant. The medium reverb works well here, adding richness to the sound, and we've added a small amount of the large reverb as well to give it a bit more scale.

11 > Moving on to the vocals, sometimes we need a specific vocal reverb, so bear this in mind. However, most of the time I can get what I want using a combination of the three core reverbs. Here we're adding just a little of the small reverb for width and some of the medium reverb for depth and richness.

12 > The long reverb is too coloured for the main vocal section, but works really well for the vocal snippets that follow. Here we're using DAW automation to send to the large reverb just for this section. Remember to A/B, muting either sends or returns. And finally, expect to tweak your send levels throughout the mix process.

PRO TIP

REFERENCING

Tip 1: Referencing good examples of finished tracks, particularly in the genres you're mixing, is vital for improving your mixes. For reverbs, listen out for how long the reverbs are and how much has been used. Try listening to just the difference signal. Add the reference track to your DAW, invert the polarity of the left or right channel and listen in mono. The difference signal will contain lots of sounds including some that are panned, but you should be able to gauge the size and level of the reverbs used.

Tip 2: Balancing reverbs on headphones is notoriously hard, particularly without any kind of headphone monitoring assistance plugin or system. It's tricky not only choosing the right reverb but particularly getting the levels right. Still, headphone mixing is a reality for many of us so we need a workaround. My tip is to periodically listen on speakers. They don't have to be amazing, but the perspective provided can save you a lot of tail chasing.

Dua Lipa's *New Rules* demonstrates a selection of reverb types at once

Mauricio Santana/Getty Images

RECOMMENDED LISTENING

DUA LIPA
NEW RULES
A good example of selective and combined use of different reverb lengths in contemporary production.
bit.ly/DL_NewRules

GEORGE MICHAEL
A DIFFERENT CORNER
When choosing reverbs, sometimes you just have to use your instincts as this particularly sibilant example demonstrates.
bit.ly/GM_diffcorner

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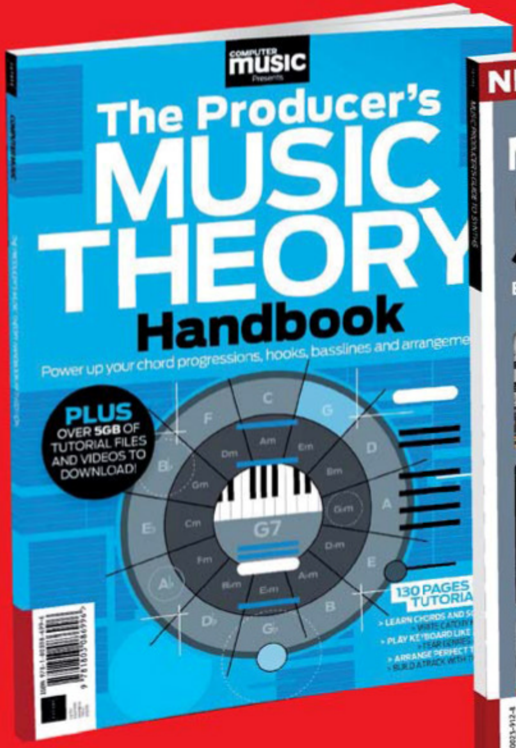

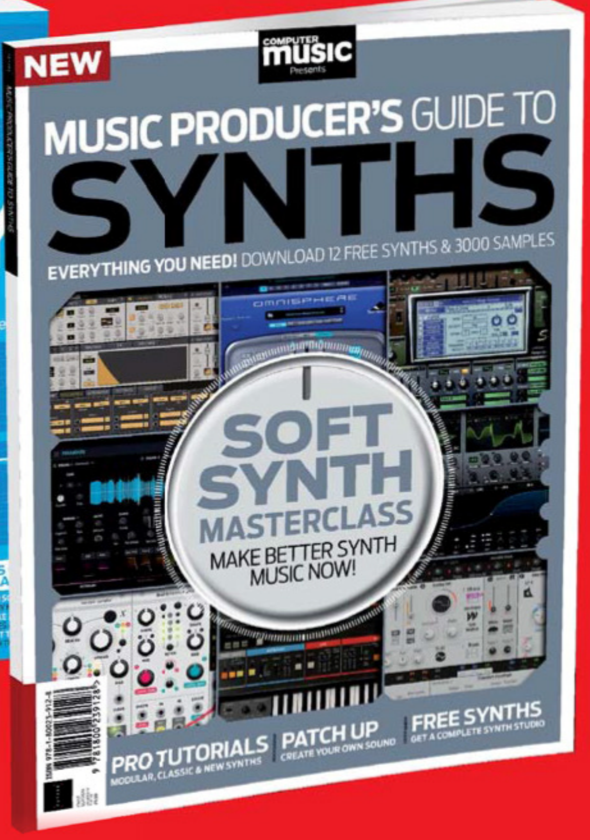

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COSMICAT

Things are changing on the Saudi dancefloor... and women are leading the way...

> Nouf Sufyani – aka Cosmicat – is Saudi Arabia's first female superstar DJ. In a country that only allowed women to drive in 2018 – after a 30-year ban – that's quite an achievement. Born in the '90s, when playing music in public was still considered a sin, Sufyani trained as a dentist after leaving school, but music eventually took hold of her life. Taking advantage of the social changes that were happening in modern Saudi Arabia, she secured her first DJ gig in 2018 before releasing her debut EP, *Dilemma*, in 2020.

Her house-based sound is melodic and progressive, with haunting vocal hooks and solid yet sinewy grooves – as evidenced at various international festival shows over the last year. And Sufyani's success has caused ripples through the Saudi music scene, with several other female DJs following in her footsteps.

"Things are changing in Saudi," she explains from her Jeddah studio. "Every year – every month, even – there are more Saudi artists making great dance music. Especially women. It makes me proud that the stigma around this career path for women is nothing to worry about anymore. The only way is up!"

cm: How long have you been interested in music?

NS: For my entire life! I remember my mom told me that when I was a toddler, I would request – very strongly! – my favourite cassette over and over again. Music was a big thing in our house and my parents used to listen to Arabic classics all the time.

cm: Who were the artist that made the biggest impact on you in those early years?

NS: My mother adored Abdel Halim Hafez, well-known in Saudi Arabia – and elsewhere – for the famous sample used in *Big Pimpin'* and created by Timbaland for Jay-Z. She also liked Khalid Abdulrahman, but my father was a big fan of Warda and Asala. Having said that, they both agreed when it came to the music of the living Saudi legend, Mohammed Abdu, which I also love and adore till this day. As I got older, though, I realised that none of the Arabic music I'd been listening to had really rubbed off on me. I was far more interested in the sounds of international pop, R&B and hip-hop.

When I think back now, I realise there were many artists that had an influence on me. Obviously, I spent a lot of my time listening to Queen B – Beyonce! But then there was Timbaland, Pharrell Williams, Mariah Carey, Alicia Keys, Tupac, Justin Timberlake... Missy Elliott, of course. And Kylie Minogue. In some way, they all seemed to have influenced the sound of the music I make today.

cm: Was the learning of musical instruments part of your childhood?
NS: If I'm being honest, none of my family or extended family members ever demonstrated any form of interest in any type of art. But they were really big on education and the importance of… knowledge. They always encouraged me to find out things for myself. To always search for the music and the information I needed.

cm: How easy was it to access music in those early years? What was the music scene like in Saudi?
NS: Even something as simple as getting hold of physical records around the late '90s and early '00s was extremely difficult. As for finding instruments or any professional sound equipment or a musical education? Forget it! I was not among the few privileged kids who had access to music lessons. For that, you either had to live abroad, be rich enough to fly in your own music teacher or have access to an international private school. That wasn't my world.

On those rare occasions when you did find a record store, the choice was very limited. There was barely anything beyond the most popular songs of the day. And they were mostly Arabic. What you have to remember is that, in the Saudi Arabia of my childhood, music was regarded as a 'sin'. No one was allowed to play music anywhere in public, not in the local shopping mall or in restaurants or anywhere. If you wanted to listen to your favourite songs, you had to do it in your car or your own house.

cm: Can you tell us a bit about Saudi's musical history. Who were its biggest stars?
NS: Some of the biggest names have been around for a long time and they still define the sound of Saudi: Mohammed Abdu, Rashed Al-Majed, Rabeh Sager, Waed, Abdul Majeed Abdullah. I guess you'd say that they perform classic, Saudi-style music. The strange thing is that Saudi has always seen music as a central part of our culture, but, at the same time, it was also frowned upon – right from the '80s all the way to early '00s – for anyone to pursue music as a career. Especially for women! Thankfully, that is now history.

I do think that it's important for people to acknowledge this part of our musical heritage and to have better appreciation for the musicians we have today. Let's not forget how much they all had to overcome to chase their passion.

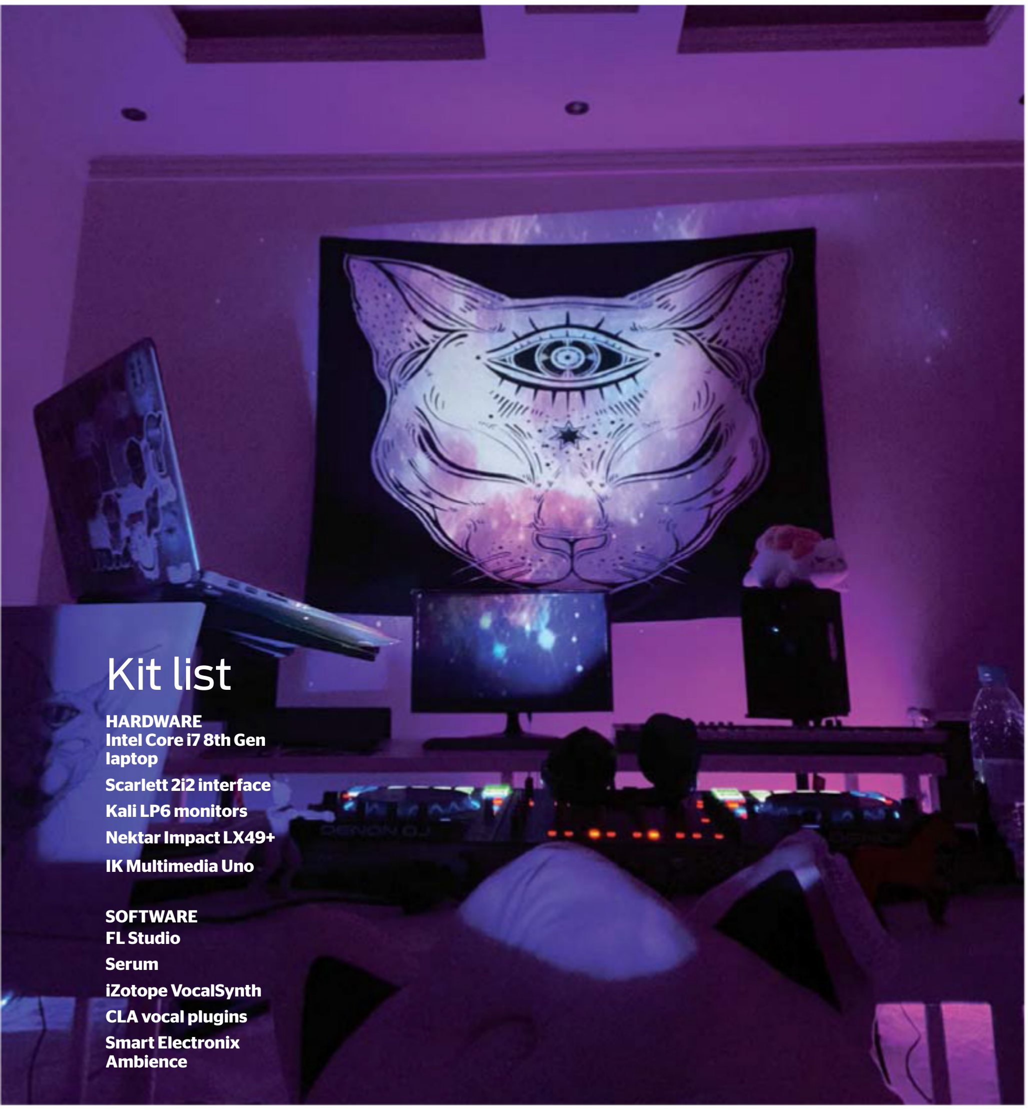
cm: As you mentioned, there was also the issue of you being a woman. How did that affect your journey into music? Was it the same for your mum's generation?

> "In the Saudi Arabia of my childhood, music was regarded as a 'sin'. No one was allowed to play in public"

NS: For me, being a woman who lived in a certain place at a certain time, wanting to pursue a new and unusual type of music wasn't easy, that's for sure. It was a time that was full of uncertainty and fear of the outcome. Would I be accepted? Would I be able to continue? Was there going to be a negative backlash?

But you know what, none of my fears came to pass. Our community has changed drastically in the last 20 years or so and has a completely different mindset. Nobody was that shocked by my choice. I felt supported and appreciated, and that support made me so happy that I was able to push myself even harder.

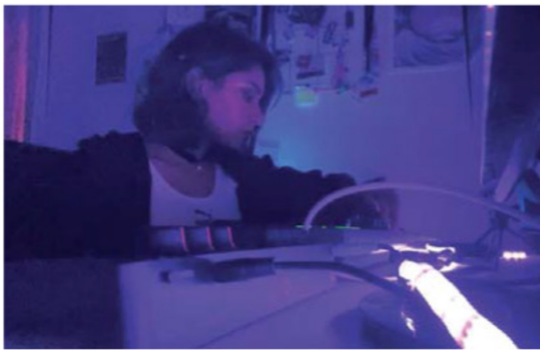
As for my mother's generation? That was a very different time. Although she was able to acquire records and enjoy music, she never had the chance to learn any instruments. She didn't even attend a real concert in Saudi until 2018. Can you believe that? 2018! She went to see Mohammed Abdu.

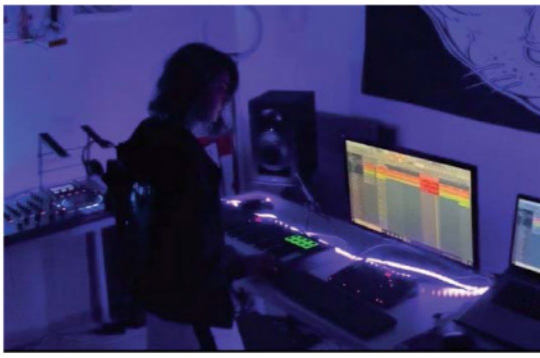


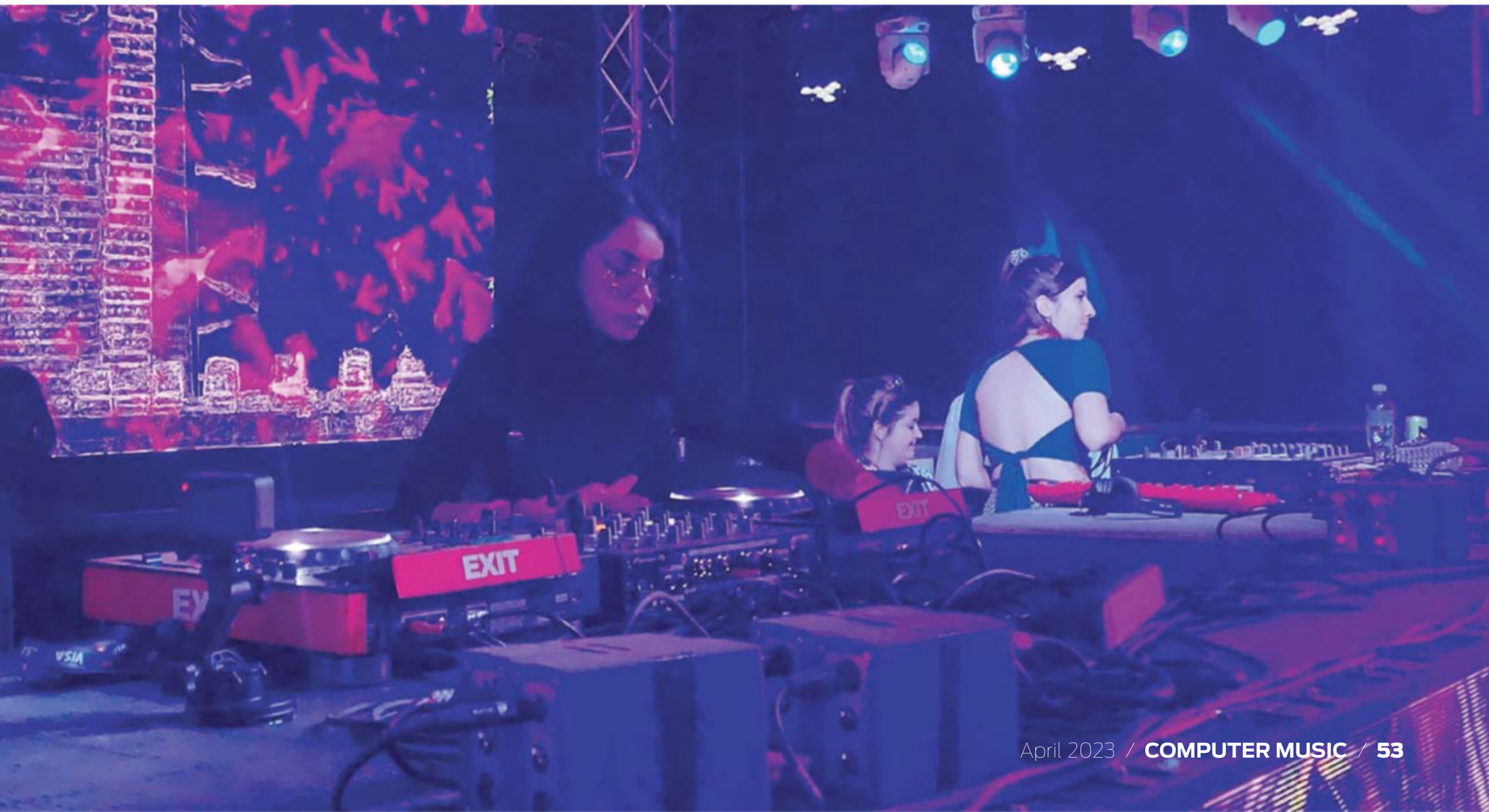
Kit list

HARDWARE
Intel Core i7 8th Gen laptop
Scarlett 2i2 interface
Kali LP6 monitors
Nektar Impact LX49+
IK Multimedia Uno

SOFTWARE
FL Studio
Serum
iZotope VocalSynth
CLA vocal plugins
Smart Electronix Ambience







cm: You initially trained as a dentist. What gave you the idea of playing music? Why the change of plan?

NS: Like so many other producers and DJs, I started out by playing music for myself. I didn't think of it as a career. Then came the next stage, when I started playing music for my close friends. And the circle of friends started to get bigger. And bigger.

In those early days, the idea of music being something you could do for a living was definitely shaped by some of our local Saudi artists, such as Vinyl Mode, Baloo and DesertF!sh. Seeing them spin records gave me the push I needed to try it on my own. When the bookings eventually started happening, I suddenly found a great joy in all the travelling and exploring different environments. And I was being paid to do the thing I love the most, which is music. There was a point where music seemed to take over my life and I decided... well, I probably wasn't going to be a dentist.

cm: Did your parents disagree with your decision? Were any other obstacles placed in your way?

NS: At the time, I felt like I was in a position to make my own decisions. I wasn't a child, I was a grown woman, so I didn't think that I needed to get permission from anyone to pursue my own choices in life. And I say that with all due love and respect for my family. Women should not be portrayed as a property of their families or husbands.

There were a few other obstacles I encountered along the way. Music is something of a niche industry in Saudi and, worldwide, it's still a male-dominated environment. Yes, I found myself in some situations where people would simply brush me away because I was a woman. They wouldn't take me seriously and were constantly doubting my knowledge or skills.

Sadly, that is something that women face every single day in every profession they choose. It was something I also faced when I got my degree. I even faced it when I'd qualified and could put Doctor in front of my name! What else is new? All you can do is show them how it's done instead of wasting time arguing.

> "I wanted to make sure my first record would show my Arab identity loud and clear"

cm: You started out as a DJ and then moved into production. How did it feel making your own music?

NS: The reason I learned how to DJ is that I had a strong desire to make music, but I did not have the means to make that music. My first encounter with studio software was FL Studio – it was Fruity Loops back then – when I was in high school. So, I started revisiting my limited skills again in 2019, especially after meeting my friend Yann Dulché in Riyadh. He was the one who encouraged me to take music production seriously. Like most people, I tried to make use of lockdown in 2020 and took the opportunity to sharpen my production skills further and learn more. I did what I do best and started following tutorials on everything you can imagine in making electronic music. When things got back to normal, I also spent a lot of time hanging around DesertF!sh's studio a lot. It was an honour to watch and learn and ask questions. All I can say is that this man is a genius.

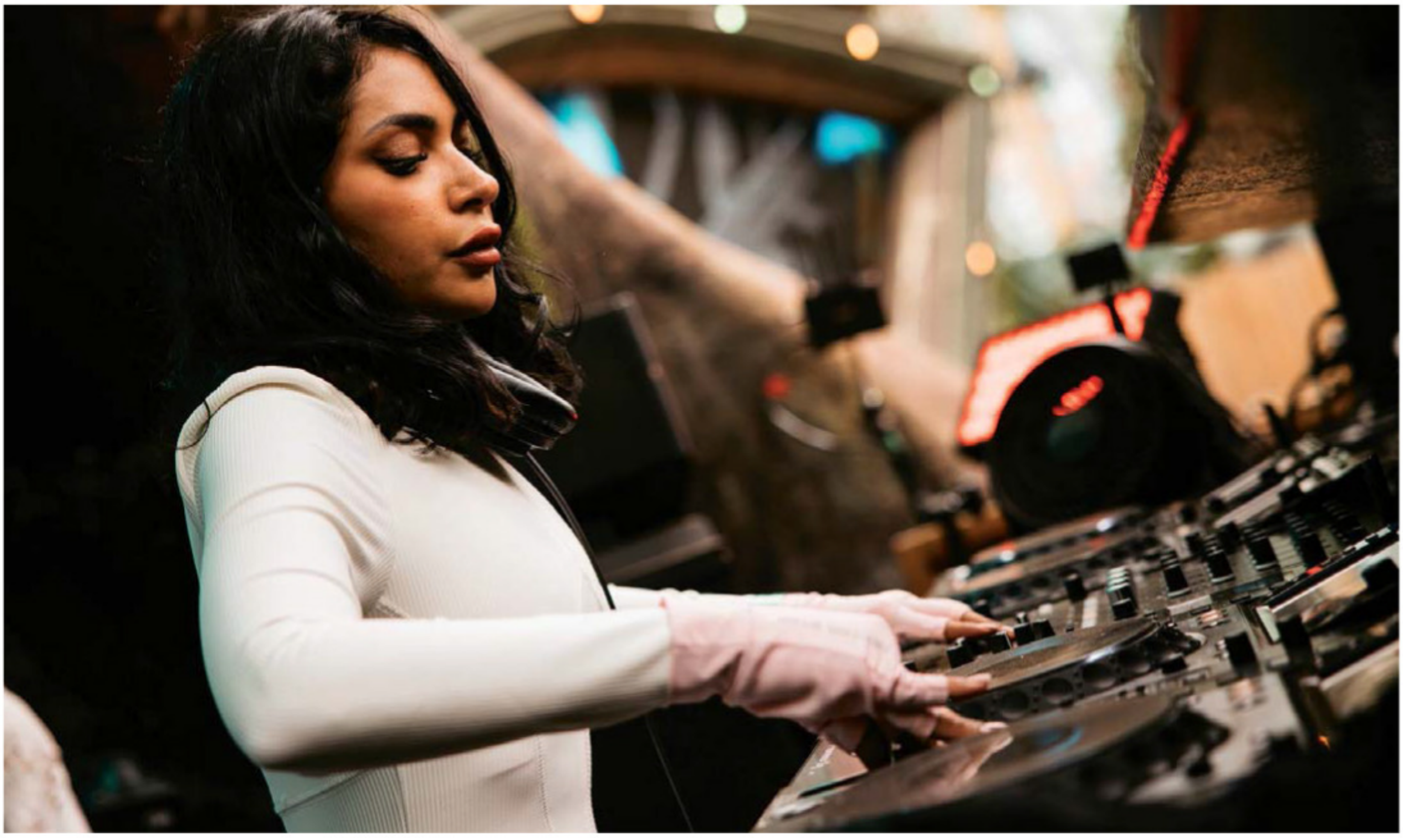
cm: What was the first song you wrote? Did Saudi culture find its way into the music you were making?

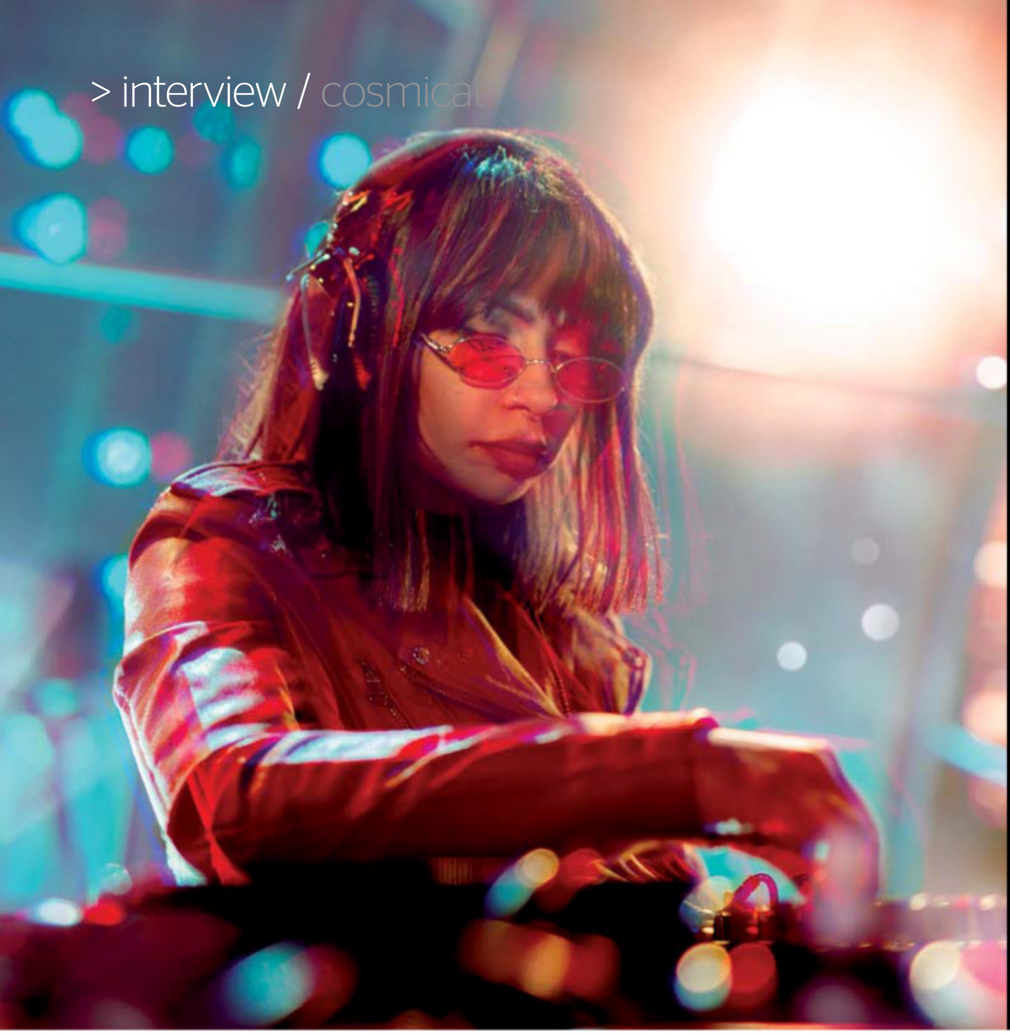
NS: I've written many, many things that never saw the light of day, but the first one that was actually recorded and published was the *Dilemma* EP with Yann Dulché. I wrote Arabic poetry, I sang on the EP and did spoken word. It was a deep house EP that also featured Baltra, who's one of my favourite artists. I wanted to make sure that my first record would show my Arab identity loud and clear.

cm: Once you'd started making your own music, how easy was it to generate industry interest? You also did some TV presenting in Saudi; did that help when it came to getting your music out there?

NS: My TV career was very short and it all started after I became a musician. To be honest, I don't know if I'll do TV ever again because it had absolutely nothing to do with my music. I wasn't a TV celebrity... I was just like every other producer, trying to figure out ways to get my music heard.

Thankfully, we're living in the internet age which makes the whole process a lot easier. It's a great tool for learning how to make music, but it also gives you access to a world of possibilities.





The current electronic music scene in Saudi...

"We have a vibrant underground electronic music scene at the moment. Underground is where it all started for me... and it's the same for most of the artists in Saudi. Vinyl Mode, DesertF!sh, Baloo, Hats & Klaps, Dish Dash. I'm happy to say that electronic music is constantly expanding for us and there are a lot of new rising stars to look out for, like Dorar and Biirdperson. There's so much music happening now that we're beginning to create a specific sound for every major Saudi city. For example, house music in my city, Jeddah, is always groovy, nostalgic, and melodic. Some of it is quite minimal, too, but it always makes you want to move your hips. I like to say that Jeddah tunes make you feel like you're in a dream. On the other hand, the sound of Riyadh is very different. They lean more towards tech house and the faster rhythms of techno. If you're DJ-ing in Riyadh, you go hard and you play big energy sounds."

Even though I'm based in Jeddah, I'm able to distribute my work and connect with others. In the past, that would have been impossible.

cm: What's your current studio set-up? Is it a studio unit in the city or is it at home?
NS: I have a home studio and my set-up is pretty straightforward and minimal. I like my space to be clean and neat. Mainly, it's just my computer, connected to a large monitor – one that's big enough to allow me to see those tiny details on sound waves! Apart from that, it's just a MIDI keyboard, microphone, piano and a tiny analogue sequencer.

The DAW I use is still FL Studio and probably 90% of everything I do is in the box. One of the reasons I love FL Studio is because it's so familiar to me – back in high school, I used it to make my first hip-hop beats! I still find that the user interface is super-friendly and organised. I love the fact that it dims my screen automatically, which is gentler on my eyes. The infinite automation possibilities... even the way it lets me organise my playlists with different colours and icons. All the Image Line plugins that come with it are amazing, too; they can do wonders on their own.

cm: Any software synths, plugins, effects that you couldn't live without?
NS: For sound design and general day-to-day synth work, my favourite plugin is Serum. For my basslines, I love using sequencers, like Transistor Bass, Groove Machine Synth or Sawer. To be honest, I haven't gone crazy with software. I like to keep it simple and not overload my CPU with unnecessary programmes that only get used once every six months. For my drums, I tend to use high quality samples. Often, I take the attack from one sample and the tail of another to create my own unique drums. That's when services like Splice and Loopcloud come in very handy because I've got access to hundreds of thousands of sounds.

After layering up my drums and building a solid groove, I start messing around with interesting chords. Then I pull up Serum and begin the long search for those sounds that will make the song special... the all-important leads and some bold, sweeping pads. Something that will give a big, cinematic quality to the music. Most of my melodies are created on Serum, but I sometimes find myself using FL Keys or Morphine as well.

At that point, I move to the actual writing and recording. Not everyone does it this way, I know, but I prefer to add all the effects at the very end of the project – some light distortion on the kick, adding some warmth to melody. Nothing too drastic. Again, it's mainly FL Studio plugins, with a bit of help from Smart Electronix's Ambience.

Having said that, I'm not quite so restrained on the vocals. The truth is I go seriously crazy on the vocal effects chain. A lot of CLA plugins and iZotope's VocalSynth. I've even recorded my cats and featured them on one of the tracks from my *Ascension* EP.

cm: Talk us through a typical day in the studio.
NS: Since it's a home studio, I have the privilege of working in the comfort of my pyjamas. I usually have a goal or a certain project in mind. Or maybe that vision only comes once I start working on music. Coffee helps a lot and is arguably the biggest driver in the studio process! *[Laughs]*

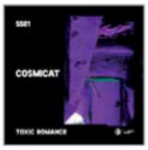
Ideas for songs come from... like most people, I use my own emotions for inspiration. Sometimes I like to talk about something that people can also relate to on the dancefloor, even it's just a silly idea that will make people laugh.

cm: What's Jeddah like? Does the desert landscape provide inspiration?
NS: Jeddah is a beautiful coastal city, but I don't go out much when I'm at home. I'm usually just taking a break between gigs. Yes, the desert is beautiful, but I'm a beach-town girl at heart.

cm: What have you got lined-up for 2023?
NS: More tracks to work on, more live show, new cities to visit and plenty of self-care. Even when you're busy, you have to take the time to look after yourself. **cm**

Cosmicat's *Ascension* EP is out now on MDLBEAST Records

HEAR MORE



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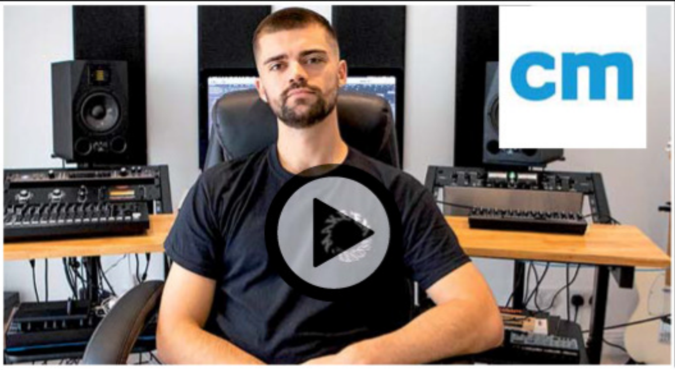

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It's a VA, granular, wavetable and sampling synth, but is the latest v4 of Arturia's award-winning plugin a worthy upgrade?

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- **7**___Solid. Well worth considering
- **8**___Very good. A well-conceived and executed product
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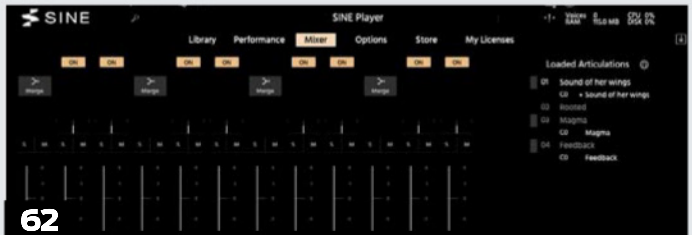
- **10**__Exceptional. It just doesn't get any better than this!



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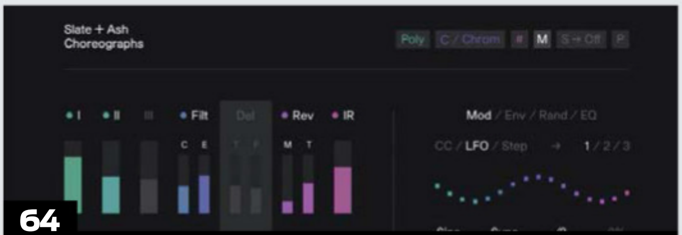

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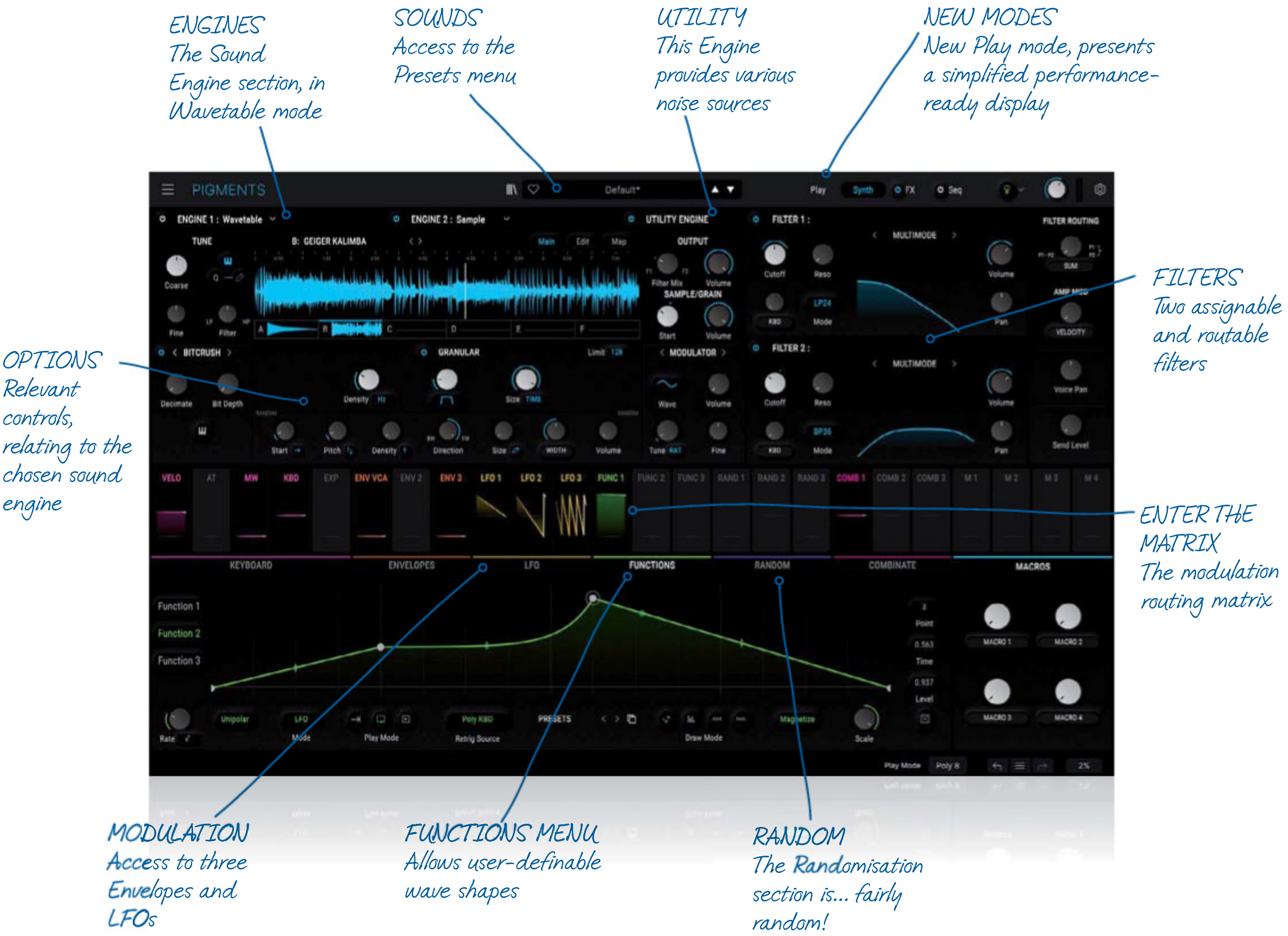


Arturia Pigments 4 — PC MAC — €199

The next generation of this creative synthesiser from Arturia adds a new splash of tonal colour to an already burgeoning palette

> Arturia need no introduction when it comes to recreations of vintage synthesisers for your desktop delight. They were one of the first companies to ride the classic synth wave in software form, but if you crave a softsynth with contemporary tendencies, the company's Pigments may well be the answer.

Core recapitulation

Pigments is a highly programmable software synthesiser, which employs a stylish interface to allow quick and easy editing and creation of new patches. It's very, very powerful. At its core are two assignable sound engines, which allow flexible sound generation from four different synthesis quarters; Analog, Wavetable, Sample and Harmonic.

While the Analog oscillator is at the simpler end of complexity, there's plenty to use. Apart from five classic wave types, there are actually three oscillators on offer, as part of each single engine. Wavetable provides a superb source, with plenty of scope for modulation across several aspects of wavetable operation, from wave travel to morphing, and all with helpful graphics to guide your editing. The Sample engine allows basic sample playback, alongside a plethora of granular controls, while Harmonics operates as a highly adaptable additive oscillator, also with plenty of control. You'll also find a Utility engine, to add further colour, such as White noise.

Some of the enhancements of Pigments v4 exist through a number of improvements within the sound engine department. Wavetable now sports Ring Mod, while there have been significant improvements to the Unison operation across all sound engines. Pigments already sounded pretty fruity to us, but these

> "One of its exceptional strengths is its ability to modulate just about any aspect of a sound that you wish to"

enhancements provide added value to an already classy core.

MS Filter

The Pigments filter section remains substantial, with two assignable filters, which include offerings from other Arturia favourites, such as the Jupiter 8, Minimoog and Oberheim SEM. A new addition is the MS20 filter, which is very welcome, thanks to its aggressive tendencies and ability to squeal on demand. Arturia have also made a number of enhancements to the existing filters and effects, such as considerable additions to the Bitcrusher section, and a new FM control within the Jupiter filter.

Old and new mod cons

Without doubt, one of the exceptional strengths of Pigments is its ability to easily modulate just about any aspect of a sound that you wish. The process of applying modulation remains blissfully simple. The modulation grid, which runs across the middle of the plugin, provides a beautiful drag-and-drop function, which seamlessly puts a modulation in place. This remains unchanged and as usable as ever. With three LFOs, Envelopes, assignable shapes within the Function section, and Randomisation, you are unlikely to be left requiring further modulation options, particularly when you consider that these modulation sources may also be shared across destinations

Arturia have included plenty of new content within version 4. There is a host of new factory presets which includes three new sound banks, all of which are curated into menus. These are accompanied by 63 new sound engine wavetables, 67 new included samples, and 36 new noise types.

Final colourations

Pigments has always been a powerful product, and while you may be forgiven for thinking that there isn't a vast amount of change within version 4, it remains one of the most inviting and versatile synthesisers in software, with a sound engine which will impress across most areas. While the preset content will show off the package nicely, it is the ability to get down and deep with the programming which excites us the most. Whether you are jumping on for the first time, or simply upgrading, it is worthwhile in all circumstances. **cm**

Web www.arturia.com

Pigments 4 introduces a Light mode, alongside the default Dark mode

Getting Mod'd

There are plenty of synthesiser products on the market that can sound impressive through their initial salvo of collated presets. While many of us are happy to occupy the preset domain, it is the ability to put your own spin on a sound that is likely to set you apart from the rest of the crowd. With this in mind, we are big fans of Pigments. It offers a relatively rare commodity through an interface which manages to keep things simple, while exhibiting the details you need uppermost. Moreover, the ease and clarity with which you can apply modulations is a huge selling point for us. It is the ability to modulate synthesiser elements and controls that will generate movement and colour in your sound. When this is as easy and effective as it is in Pigments, you would be daft not to use this to its fullest capacity. If you are feeling particularly brave, call up a default patch, and build your sound from the ground up.

Alternatively

Cherry Audio – Sines
cm316 » 10/10 » $59
A synthesiser that provides frequency modulation en masse

U-he – Zebra 2/Legacy
cm108 » 10/10 » €99
The next level up from our own ZebraCM provides complex wave structures and modulation routing options at an affordable price

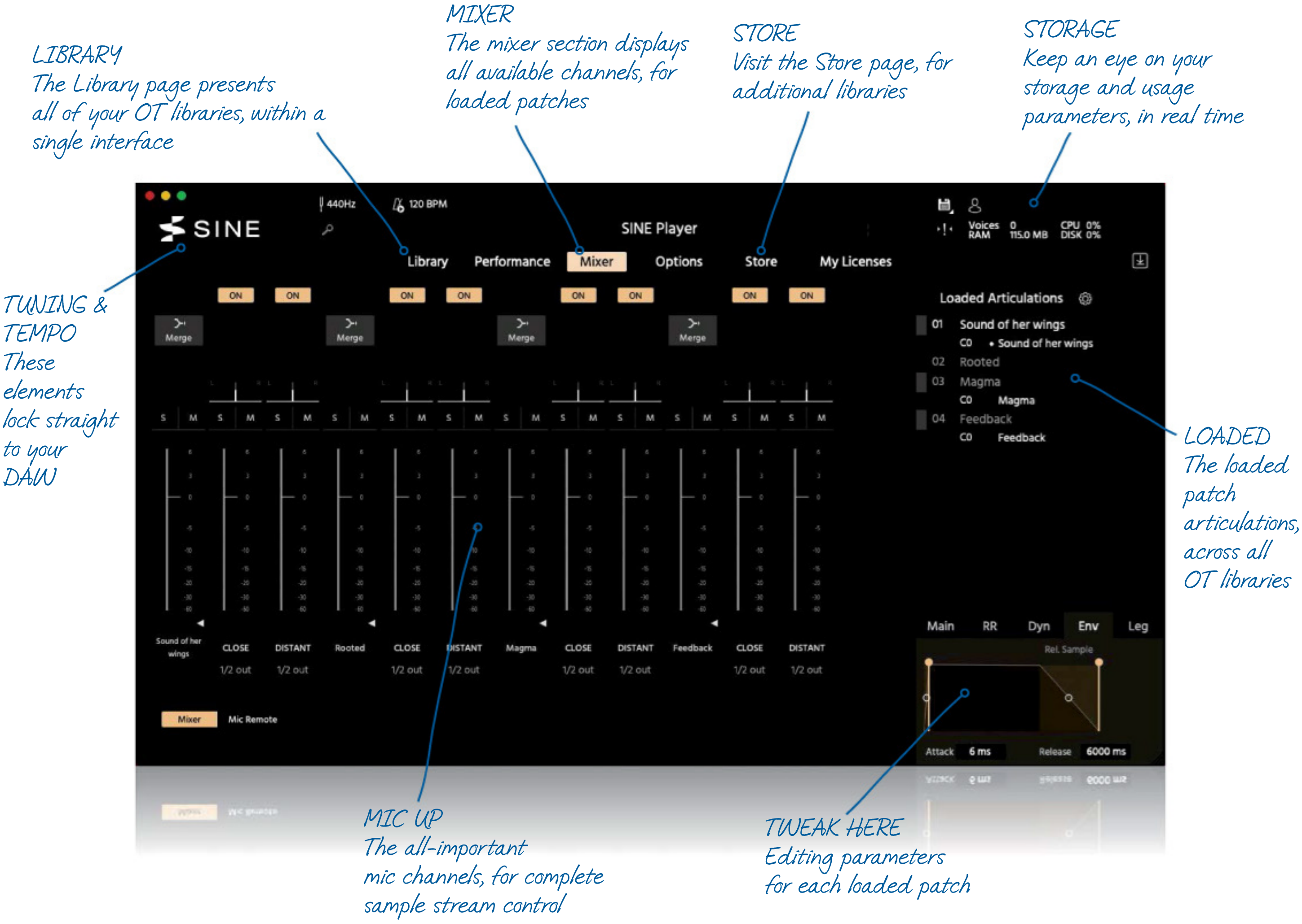
Verdict

For Versatile filter section
The modulation routings and options are vast, and easy to instigate
It packs a lot of content into an affordable price-point

Against As an upgrade, it doesn't feel overly significant

Pigments continues to be a desirable, great-sounding product and an enticing entrée to patch creation

9/10



Orchestral Tools Drones €189 + VAT

PC MAC

If you thought drones were merely functional, you need a better sound library. OT's new suite takes the drone to a higher level

> The humble drone; it's an often static, but effective musical device, which for years has been the preserve of single notes played on a synthesiser. The reality is, drones can do far more than just drone on, but in order to make the most of it, you'll need some appropriate sounds that lend themselves to the format, with the capacity to build and embrace a climax.

Collapsing buildings

Orchestral Tools are the innovative organisation behind this new package, which makes no bones about its concept, being called simply 'Drones'. However, they have enlisted the help of Alexander Hacke; the Berlin-based musician is also a composer, singer and producer, as well as being a member of the legendary German band, Einstürzende Neubauten, or in literal translation, 'Collapsing new buildings'. Their industrial and often soundscape-designed music often features noises, musical or otherwise, in the creation of drone-like textures. This gives us a fair indication of where some of the Drone material may head, and with a whopping 362GB of sampled content, compressed to 169GB via OT's SINEarc technology, it's certainly expansive.

See the Sine

Drones operates from within the Sines plugin portal. Being multi-faceted, Sines takes a little while to get your head around, but its relatively clear menu and hierarchic structure generally steers you in the right direction. Talking of menus, the Drone content is organised into six menu categories, the first four being the curated production-polished drones, ready for immediate use.

Beginning with the Soft Low Drones sections, the 12 assembled drones are all playable over a range which differs from patch to patch. Some play over a mere octave, while others extend far further, as each drone element has been sampled chromatically. That's pretty thorough, especially when you consider that each drone element has been sampled for approximately

> "Drones is a very comprehensive collection of samples, which are entirely designed for purpose"

one minute in length. This underlies the nature of the library, where many of the organic samples undulate. The sense of movement can be exacerbated further, with the use of the modulation wheel, where additional elements and textures appear, welding to the existing soundscape. In this initial soft salvo they are totally beguiling. You can hear the quality, and it sounds expensive.

The other three categories, labelled Sub Drones, Atmospheric Drones and High Intensity Drones, all provide exactly what you would expect and a whole lot more. The Sub Drones make extensive use of bass, Moog synthesiser and even a bass choir, while the Atmospheric Drones include some wonderful oddities, such as an EBow on a piano and a hurdy gurdy. As these elements are heavily intertwined, you occasionally hear an exposed colour poking through, but it is never overtly obvious.

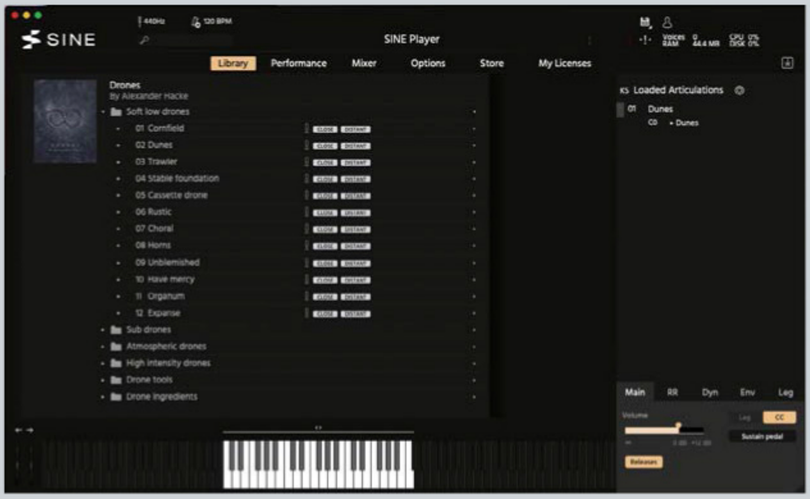
Drone Ingredients

Once you have acclimatised yourself to the nature of this library, the two remaining sections are a little more bespoke. Drone Tools includes a healthy dose of cinematic weirdness, along with textures and swells for builds. The Drone Ingredients section is where you can locate the individual and raw instrument samples, and create your own patches from the source material.

Droning on

On the whole, drones have a bit of a bad rap in certain musical circles, as they often don't do very much. Nothing could be further from the truth with this library, where an invigorating life force of organic content has been heavily laden into the texture. Couple this with the ability to rise, build and deflate your drones, and it's a very comprehensive collection of samples, which are entirely designed for purpose. **cm**

Web www.orchestraltools.com



Clear and concise patch menu hierarchy, within the Sine player

The Sine player

Orchestral Tools made the switch to their own Sine player a few years ago now, and the benefits of this multi-timbral interface are substantial. Firstly, it is the perfect location to find all of your OT content, hosted by one plugin. It is easy to access editing elements, so if you want to change an envelope setting, or tweak the number of round-robins you are using, it's a simple procedure. As many OT libraries come equipped with multiple signal paths, 'Drones' being a case in point, the mixer section allows immediate access to these channels, even while using the plugin in a multitimbral format. The Options menu also provides one of the most substantial, and easiest to access portals for organising your MIDI CCs. The controller mapping is extensive, however it can be as simple as you need it to be, with the ubiquitous use of the modulation wheel for dynamic expression, in common with many other libraries.

Einstürzende Neubauten's Alexander Hacke was enlisted by OT to work on Drones

Alternatively

UVI Drone FX
€149 (or with Sonicpass subs)
UVI's comprehensive collection of production-ready libraries includes a specific Drone FX library

Native Instruments Pharlight
£179
Provides some beautiful content for creating pads and drones

Verdict

For Beautiful collection of drones
Electric and acoustic instrumentation beautifully coexist
Sine player allows extensive control and editing

Against It is a drone library, and not everybody wants drones!

About as comprehensive as drones can get, in a production-ready, stylish and great-sounding format

9/10

Slate + Ash Choreographs £249

PC MAC

What happens if you apply step movement and choreography to software synthesis? Slate + Ash hope to enlighten and surprise you

> Creating movement in your sound and production is one of those best kept secrets for any professional working in electronic music and production. Of course, achieving this in the DAW-based realm is largely dependent upon the instrument you are using.

Learning the Steps

Enter Choreographs; at the heart of this instrument is the capacity to create interesting textures and sequences, while the level of sonic manipulation over time is incredibly inspiring and appealing. The GUI itself is sharp with contemporary styling, much like S+A's previous offerings. One unintended consequence of this is that it isn't always obvious how certain elements operate, but with relatively little time, you will become fully and easily acquainted with its content and styling. There are 650 curated presets to get you started, nicely defined into categories to guide you. The interface invites exploration, and beginning with an initialised patch is the most tempting proposition.

First moves

In the top left hand corner of the instrument, you'll find the initial building blocks, which relate to the familiar concept of subtractive synthesis. The I, II & III faders are oscillators; clicking on the number itself will activate or mute the oscillator partial, while clicking on the dot will open a menu of waveforms. The selection here is vast! Choreographs is packed full of 22GB of content, the majority of which relates to the 400 or so included samples. Consequently, you can choose from some beautifully captured sources, which run the full gamut from classic analogue waveforms, captured from the likes of the MS20 or Jupiter 4, to sounds created through modular synthesis, digital synths, drum machines and even sound effects. This includes everything from the sound of static to distant bird calls.

> "A very unique sound which is incredibly formidable, and will have you returning on a regular basis"

With three partial layers to build upon, beautiful textures are a total breeze. Unsurprisingly, these elements feed the filter, before moving toward effects and the delay, reverb and impulse response reverberator.

Each of these is equipped with its own volume control, which takes the shape of a straight up and down fader. Where the movement truly begins, is with the ability to assign any one of these faders to a modulation source. This can be one of three LFOs or Step sequencers, or triggered via note velocity or randomisation. In common with most Kontakt instruments, everything is fully assignable to MIDI CC controllers. Hard-fader assignment is simple to implement.

Fully Modded

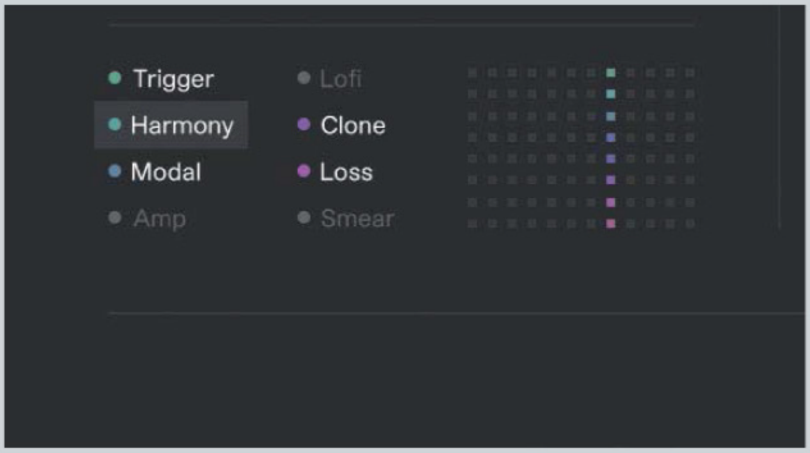
Control of the modulation sources occurs in the upper right hand section of the instrument window, where you can switch any of your LFOs to one of 22 sources. These are generic, rhythmic or complex in makeup, and all syncable to your DAW's meter. The resulting set of pulsating and generative colours are totally beguiling and hypnotic. Moreover, it is incredibly easy to get to this point from an initialised patch. We have to give mention to the graphic element; we love the dancing LFO shapes, which animate in real time as you play.

Final triggers

One final crucial element relates to triggering, where basic arpeggiated patterns can extend to far more complex and multi-note patterns. This is all accompanied by the more usual envelope generators, and a whole host of other effect and editing elements which are also accessed from the main GUI, before heading to a further choice-laden menu.

Choreographs is incredibly impressive, inviting experimentation and learning, to really get to grips with its depth, although it's usable on very basic or advanced levels. The payoff will be a very unique sound which is incredibly formidable, and will have you returning on a regular basis. **cm**

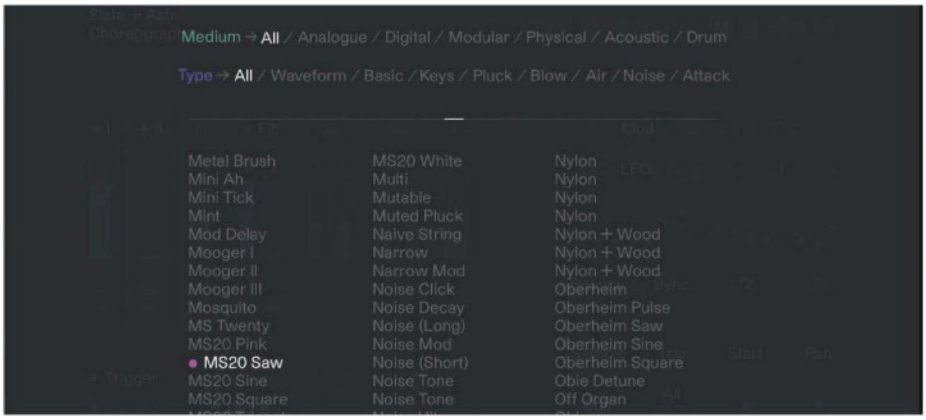
Web www.slateandash.com



Parts of Choreographs are easy, but you might find happy accidents along the way...

Slate & Who?

Will Slater and Simon Ashdown should rightly be name-checked as the guiding lights behind the company branding. In our view, this is important to mention, not least of all because they are both working musicians and sound designers, working within a number of realms of music and feature film scoring. They have supplied sound design for some of Hollywood's finest composers, and they have spared no expense in creating an impressive sound world within Choreographs, which is as unique as it is desirable. Anyone who has had experience of their other groundbreaking Kontakt instruments will be far from surprised by Choreograph's credentials, but it is subtly different to their previous contenders. We found the interface really easy to get around, and while there are a few segments that require further explanation, it doesn't take very long to develop a relatively thorough understanding of the instrument. We did however stumble across many happy accidents along the way that made us smile. It's also worth mentioning that the preset content is outstanding, but it's the experimentation that really gave us the highest rewards.



Choreographs boasts an incredibly extensive collection of included samples, which are perfect for layering

Alternatively

Slate + Ash Cycles
£279
If you enjoy the repetitive and cyclic nature of these instruments, it's worth considering Cycles, too

Sound Dust Infundibulum #2.1
cm272 » 09/10 » £70
This multi-layered sound engine places sequenced timbre right at its heart. Easy to use and unique!

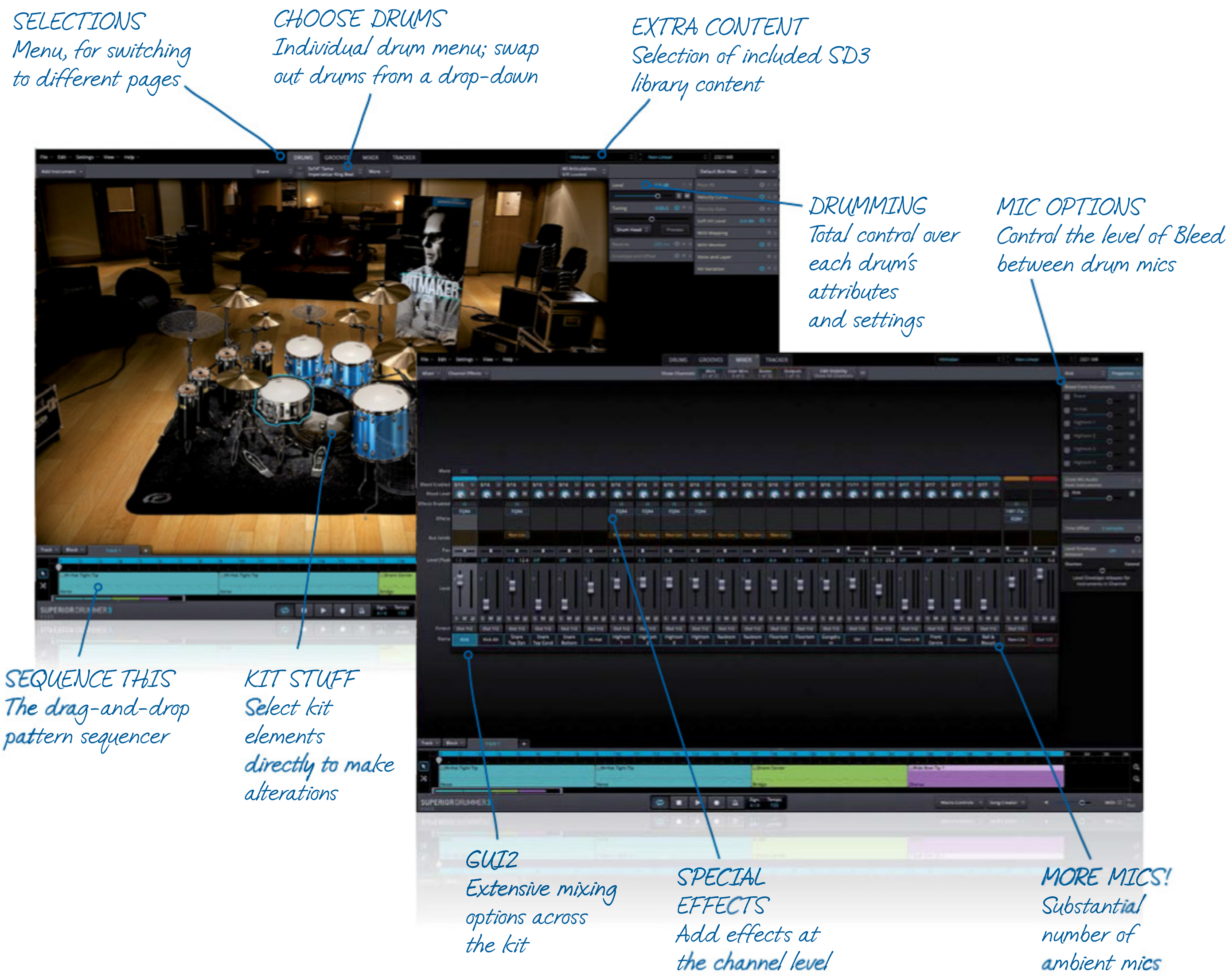
Verdict

For Immensely powerful Kontakt instrument
Versatile and admirable, at all levels
Oscillator waveform content is diverse and impressive, as is the LFO content

Against Getting to grips with operational elements may take time

Creating a unique Kontakt instrument is a difficult pursuit, but Slate + Ash have added yet another class act to their lineup

10/10



Toontrack Hitmaker SDX €165

PC MAC

Looking for great drum hits and grooves? Why not hire the Hitmaker, as this expansion pack applies the Invisible Touch of Hugh Padgham…

> For anyone in need of great drum resources, Toontrack have you covered. The entry-level EZDrummer suite provides anything but entry-level sounds, while Superior Drummer 3 takes the drum sampling concept to dizzying heights, benefitting from the ability to add extensive and highly crafted expansion packs, to create a hugely versatile library.

Bringing on the Hits

Their latest Superior expansion is the Hitmaker SDX, which secures the talents of producer Hugh Padgham, alongside the virtuosity of drummer Norman Garschke. Hitmaker draws inspiration from some of Padgham's career highlights, with references to Genesis, the Police and 'that' Phil Collins drum sound. You know that legendary drum fill on *In the Air Tonight*? Yep, that sound…

Many of those original sessions were undertaken at Townhouse Studios in West London, which regrettably shut its doors to recording some years ago. So Padgham and Toontrack decamped down the road, to the equally prestigious British Grove studios, recreating many of the Townhouse environments and capturing some of the most identifiable drum sounds in pop history.

While there are several references to those classic sounds, with stylish and exacting drum grooves to accompany the sonics, don't go thinking that this is merely a nostalgia-fest. There's a colossal amount of sampled content, all of which extends to six full kits, with individual drum swap-out options, and a host of electronic sounds. Eleven drum machines have also been sampled, along with electronic Simmons kits, with playback through a PA system to capture ambiences associated with so many hit records. There are 400 electronic sounds in all.

So regardless of your penchant for pop nostalgia, this SDX will provide a worthy source of great new drum content, to accompany the already plush and included Superior library.

> "Don't get hung up on the Hitmaker's calling card – the range of drum timbres are great for many scenarios"

Kits, presets and mixes

The first kit in this suite of six is named the Center Stage Kit, and hints heavily at the infamous Phil Collins sound. While the kit itself bears much of the responsibility for the sound, it is the use of ambient room mic'ing which adds much of the colour.

In line with all Toontrack SD3 libraries, the mixer section provides an enormous amount of flexibility, with multiple kick, snare and ambient mic channels. Both Toontrack and Hugh Padgham have curated a series of wet production-ready mixes, which deliver many of the identifiable sounds linked with this library. The inclusion of entirely dry mixes does serve as an excellent starting point, though, if you just want a great kit sound that you can use in your own production.

Other kits in the series draw inspiration from drummers such as Manu Katche and Vinnie Colaiuta, known for their work with Peter Gabriel and Sting, respectively. But one kit that stands slightly left-of-centre offers the superbly tight sound associated with Stewart Copeland; the Reggae Rock Kit. Replete with high-pitched drum heads, the hi-hat sits proud sonically, with that beautiful sharpness of tone, that was so stylised by Copeland's amazing playing with The Police. The set is completed by four Octoban tube-shaped toms, which Copeland was known for regularly exploiting on his fills and intros.

The Invisible Touch

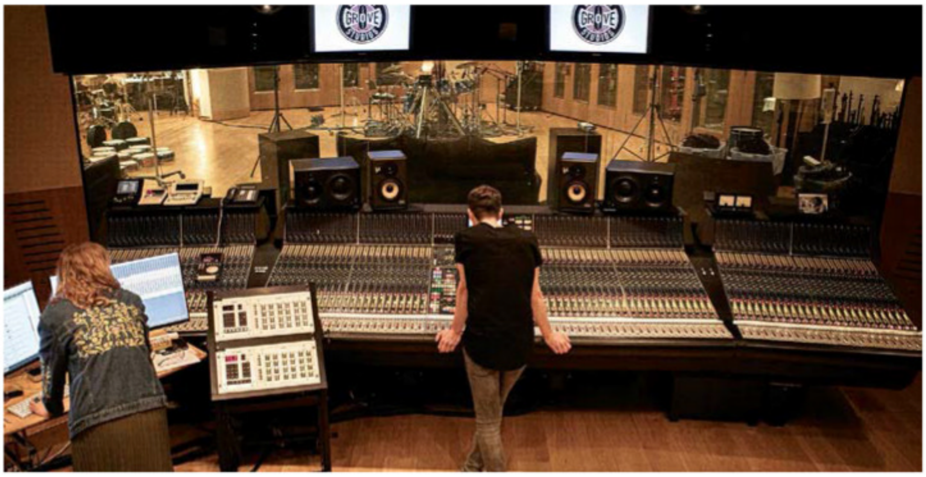
This is a very stylish and usable suite; the broad range of drum timbres are usable in so many mainstream scenarios, it's probably wise not to get too hung up on the musical associations which act as the Hitmaker's calling card of the past. The electronic elements are equally sophisticated, with iconic patterns from Collins and Genesis tracks. If it's your whim, you could very happily recreate the sound those tracks with alarming accuracy, but once you've got that out of your system, this library will serve you so well, as an exemplary and complimenting package, to other drum sounds in SD3 or the wider SDX series. **cm**

Web www.toontrack.com

Say what you see, it's the legendary Ball and Biscuit mic!

Ambience, Balls and Biscuits

It's impossible to discuss this library, without dealing with the iconic drum sound which went on to be played by a drummer in a gorilla suit, in an advert for chocolate! According to Padgham, one of the main protagonists for the *In The Air Tonight* drum sound, was the live-room's talkback microphone, described as the Ball and Biscuit microphone, due to its appearance. Completely by accident, the talkback channel was opened while the drums were being played, and the genesis of a sound was born. This mono channel is represented on the SD3 mixer by name, with the sample path being squashed using SSL compressors, delivering that highly identifiable sound. Throughout the library, there are many references to ambient and room microphones. This can provide something of a date stamp, and might not be required, which makes the presence of an individual fader for each of these ambient components even more usable and appealing. You can move from classic Collins to contemporary pop by decreasing the ambient colour.



The Center stage kit; modelled on the iconic Phil Collins kit

Alternatively

Toontrack Decades SDX
cm275 » 09/10 » €165.00
Another beautifully crafted expansion pack, including five kits with a clear American slant

Native Instruments Studio Drummer
cm171 » 08/10 » £129.00
Three beautifully recorded kits from Pearl, Yamaha and Sonor

Verdict

For Absolutely stunning collection of drum sounds
Huge variation in tone across 6 kits
Very stylish ambient signal path

Against You'll need to have Superior Drummer 3 to access these sounds

Whether you want something nostalgic or just some great sounding drums to use dry, Hitmaker provides some of the best content in the Superior SDX series

9/10

IK Multimedia Tonex From €149

PC MAC

Wouldn't it be great if your amp emulation plugin could capture your own rig? Well now it can! Time to get toned up with IK...

> Amplitube is one of the most respected and flexible guitar amp and pedal modellers available. So when IK Multimedia announced they had developed a new amp modeller, Tonex (AU, VST, VST3, AAX, standalone), we were excited but also a little confused. Thankfully the confusion was short lived as not only is Tonex fully compatible with Amplitube 5, it also provides the long requested user capture feature. So then, we basically have two complementary plugins. But let's explain how they differ. Amplitube 5 is a full rig design (plugin or standalone) with amp, cabinet, pedal, master effects and flexible routing. Additional modules need to be created by IK. Tonex is also a plugin and standalone application, and the standalone version allows you to capture your own guitar or bass amp rig and saturation or EQ based pedals (see boxout), using AI machine modelling to create realistic and adjustable tones. Tonex is available in three tiered versions with 200, 400 and 1000 factory Premium Tone Models, respectively, and unlimited access to user-generated models via IK's ToneNet, which is integrated into the interface. There's also a free CS version with 20 IK Tones and 20 User Tones and also an iOS player app. As mentioned, Tones are compatible with Amplitube 5, where they load as a single Tonex module in the Amp section or Tonex specific pedal module.

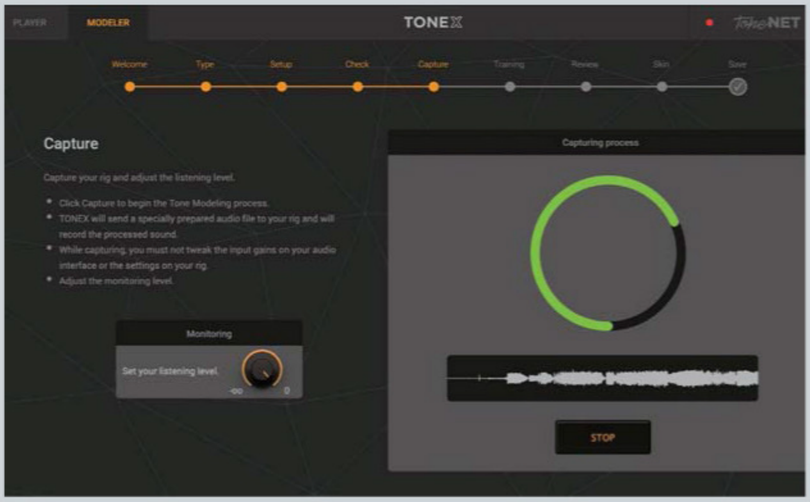
Player

The Tonex Player (or plugin) can load either

> "Though the Tonex' focus on amps and effects won't be for everyone, IK have done a great job here"

pedal or amplifier Tone Models and amplifier Tones are split into amplifier and cabinet components. You can mix and match or even swap out the cabinet Tone Model for regular impulse responses or one of IK Multimedia's many VIR (Volumetric Impulse Response) cabinets. One key aspect of Tonex is that Tone Models are adjustable, so even if you load up a shredding option (the Soldano sourced Super Shredding for example) you can adjust the gain and EQ. In the advanced parameter panel you can also specify EQ frequencies and apply an overall Mix blend. What's more, the Tone Model section is bookended by a Noise Gate and Reverb with a Compressor that can be positioned pre or post. All told this offers considerable shaping, so although Tonex may not be able to build complex Amplitube 5-style rigs, it can certainly deliver an editable and production-ready sound.

Using the modelling system we captured a very convincing representation of our Marshall JCM900 complete with vintage G12M cabinet and tried multiple mic types and positions to get a selection of track-ready tones. Each model took about 20 minutes to create and sounded really amazing. We also tested the full range of factory Tones in the Max bundle, which is sourced from 100 amps and 50 pedals. It includes some absolute gems sourced from amps such as Engl, Bogner, Mesa/Boogie and Soldano. You also get multiple examples from Fender and Marshall. We particularly like both the clean and driven tones from the Dumble Overdrive Special. Meanwhile, on a pedal tip, big names such as Boss, DOD and Ibanez are joined by highly regarded designs from the likes of Landgraff and the great Fulltone OCD.



The modelling software sends out various tones and guitar parts to your hardware, capturing and analysing the resulting audio

Modelling

The standalone Tonex application lets you capture various aspects of your guitar or bass rig. It incorporates a step by step process, and we found this pretty straightforward. Options include choosing your rig configuration (Amp and Cab, Complex Rig, Stomp, Amp [head], and Stomp & Amp), and assigning all the required connections for your audio interface, including up to two microphone inputs when capturing cabinets. IK produce a dedicated interface for this (Tonex Capture), but it's not a requirement. Once set up, Tonex sends and captures about five minutes of audio, including tones and guitar licks at various levels. To create the Tone Model, it then does some neural network training, offering three quality levels. You then get to 'review' the model against the hardware, and finally name, describe and tag your model. This is then automatically loaded to the Player tab and saved to the Tone library.

Overall, Tonex is a fantastic tool, and although its focus on amps and saturation effects won't appeal to everyone, there's no denying IK have done a great job. **cm**

Web www.ikmultimedia.com

Before capturing your hardware you need to specify its configuration

Alternatively

Studio Devil Amp Modeler Pro
$149
It can't model your amp but it can import your cabinet impulses and is a great sounding plugin

Waves Q-Clone
$99
Q-Clone can be used to capture all manner of hardware and software, including amps and pedals

Verdict

For Tone models include adjustable drive and EQ

Advanced parameters include more flexible EQ and overall mix blend

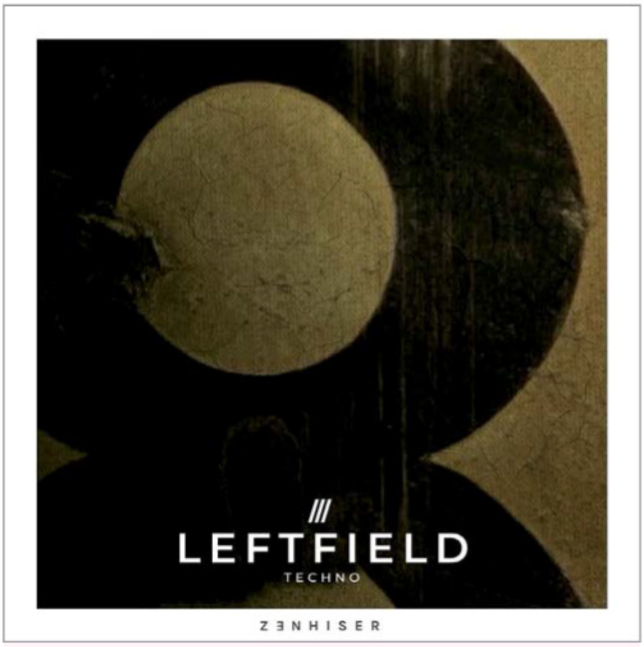
Integration with Amplitube 5

Against Options are limited to static, tone-based effects

IK Multimedia have placed their amp-capturing know-how in the hands of users and the results are impressive

9/10

Soundware round-up



Zenhiser
Leftfield Techno £43

Sublime serving of tough, uncompromising techno, fresh from the bleeding edge of the global underground club circuit.

The 700+ loops leer towards you at 125bpm, before leaving you in the dust as they clock out around 150. And the bulk of this mammoth 3GB+ chunk of content has all the kinks, quirks and forward-thoughts that fuel the more cerebral releases of labels like the Zenker Brothers' Ilian Tape and UK-based Hessle Audio imprint.

If you like it deep, driving, and with a dash of danger, then you might have just found your new partner-in-crime.

www.zenhiser.com

9/10

UNDRGRND Sounds
Banging Electro £19.95

Beefy batch of rocking robot riffs and rhythms, ready to excite and delight the gaggle of guys and girls on your next dancefloor. Built around some killer construction kits, this set of slamming samples groans under the weight of the phat beats and basslines on offer.

The energy levels are through the roof, with stems of drum machine grooves, full of stripped back kicks, snares and monster cowbells. Some shocked-out electro leadlines, ready for the big time. And 'nuff other MIDI files and mood-enhancing melodies sweetening the pot. Banging!

www.undrgrndsounds.com

8/10

Sound Ghost
Tape Reels: Fragments £12

75 tape sounds (50 loops, 25 one-shots), dripping in full-fat saturation and fuzzy-around-the-edges colour and character. The custom-crafted sonic experiments in this boutique pack are imbued with vintage charm and an ethereal quality.

It's heavy on the ambient tip, with mood-making being the collection's *raison d'etre*. And, as a bonus, SG team have helpfully bundled in 20-odd sampler instruments for Ableton and the like to further help the cause.

https://soundghost.net

7/10

Sample Tools by Cr2

Slap House & Vocals 2 £15.99

Another open-palmed wallop of cheek-reddening slap sounds for house heads who like it raw. The epic hits, loops, vocals, synth sounds, and drum workouts in this swollen 1.16GB set pack a sucker punch from the off, with everything having snap and impact the second you throw it into a track.

The FX folder helps plaster over any gaps, too, with the risers, subby explosions, and other atmospheric offerings more than ready to smooth your transitions. There's also MIDI, and some song-starting full stems – perfect for handling any final heavy lifting in your arrangements.

https://sampletoolsbycr2.com

8/10

W. A. Production

Captain K-Pop $24.90

Hop on the K-Pop party train! And wallow in all the all the upbeat, bubbly beats and bleeps you could ever want, in this trend-hopping set of finger-snapping samples. The production is as tough as it is melodic, with all the drums slapping and synths flowing over the top with an effortless glide.

It's radio-ready fair, with hummable riffs to the front. And some whip-sharp stabs and snares to keep the tempo above the radar. Joining the slick samples are MIDI loops and Serum presets for extra control.

www.waproduction.com

8/10

Sample Market

Essential House One Shots £15

A lot can be achieved with a one-shot, from kick-ass chords and dope drum hits to hyped-up horn blasts and epic bass notes. Many a house anthem has been crafted from one-finger stab grooves on a drum machine or sampler.

The 300+ sounds inside this sweet little set cover all the pumped up noises you'll need to get the crowd rocking. Plus, sustained tones to take it deeper underground, and some left field tones for the jazzier cats amongst you. What you waiting for? Loops are for losers.

https://samplemarket.co.uk

7/10

Bingoshakerz

Synthpop Song Starters £17.95

Pop on them rose-tinted specs, dust off your ARP Odyssey and Prophet 5, and jet back to the '80s. The pioneering electronica that came out of that era is honoured here, with tape machine-warmed drums and synth lines as sharp as Sheffield steel tucked in amongst the rest of the quality offerings in the 10 construction kits that hold the pack together.

https://bingoshakerz.com

7/10

Soundware round-up

Loopmasters
Francesca Lombardo: Echoes £24.95

Quality artist pack from a globe-trotting DJ and live performer, known for her blissed out beats, rousing riffs, and hypnotising rhythms. In this fully Loopcloud-ready set she explores her contemporary styles, influences, and plenty of dancefloor-orientated sounds, to keep the vibes well and truly up.

Speeds start as a steady 100bpm, before taking it up past techno tempos, for when the urge takes you. And there's a good selection of orchestral moments and sub-heavy manoeuvres to spike the adrenaline, as well as more reflective twists to strike deeper into the soul.

https://sounds.loopcloud.com

8/10

Minimal Audio
Bloom $69

Breathtaking ambient production suite of more than 1000 samples, for furnishing your finest 4/4 thumpers. The undulating and evolving pads and atmospheres in this epic collection are pea-soup thick and enveloping. And all the delicately-balanced drums run a rich range of tones and textures.

The ever-shifting moods on display grab and twist the listener, and pull you under their spell, as snatches of lost vocals and swarming rhythms bob and weave above the surface. A feast of strictly modern sound design. Perfect for building dense sonic landscapes...

www.minimal.audio

9/10

Singomakers
2 Step Rewind £29.95

Turn back the clock to the prime time of UK 2-step, as the clubs bubble to the speedy basslines and twitching, sniffy, percussion of this much-loved off-shoot of millennial dance music.

Inside you get to pop the cork on a whole legion of live and large loops dripping in sonic bling and vintage swagger. Big drums and catchy vocal and melodic hooks keep the spirits up, as the groove gets nice at 130bpm. Top stuff, all in, for channelling your inner Artful Dodger.

www.loopmasters.com

8/10

Singomakers

Amapiano Hitmaker £34.95

Super stocked set of swinging samples for those of you bitten by the Amapiano bug. This South African sound has been scooping up fans, and its melting pot fusion of dance music, jazz and lounge-level looseness is yours to dig in this 1.67GB collection of club-tickling loops.

There's a stash of brass, piano, guitar and synths, amongst the other iconic elements of this sizzling sub-genre. So, if you want to bask in the shine key payers like Busta 929, Young Stunna and De Mthuda are enjoying, then fire this one up.

www.loopmasters.com

8/10

Mode Audio

Vinyl Drums £16

Budget breaks pack that won't break the bank. These fly drum loops snap, pop and even crackle, thanks to the vinyl noise stems tucked alongside them in the set. Each royalty-free thump of the tub will sit pretty in downbeat, trip-hop, rap or funk tracks. And all the vintage and modern sounds have plenty of boom and bap.

As hits, the snares are crunchy and the kicks pack a punch. And there's also 13 solid drum kit patches and bonus MIDI loops to play with.

https://modeaudio.com

7/10

Audiotent

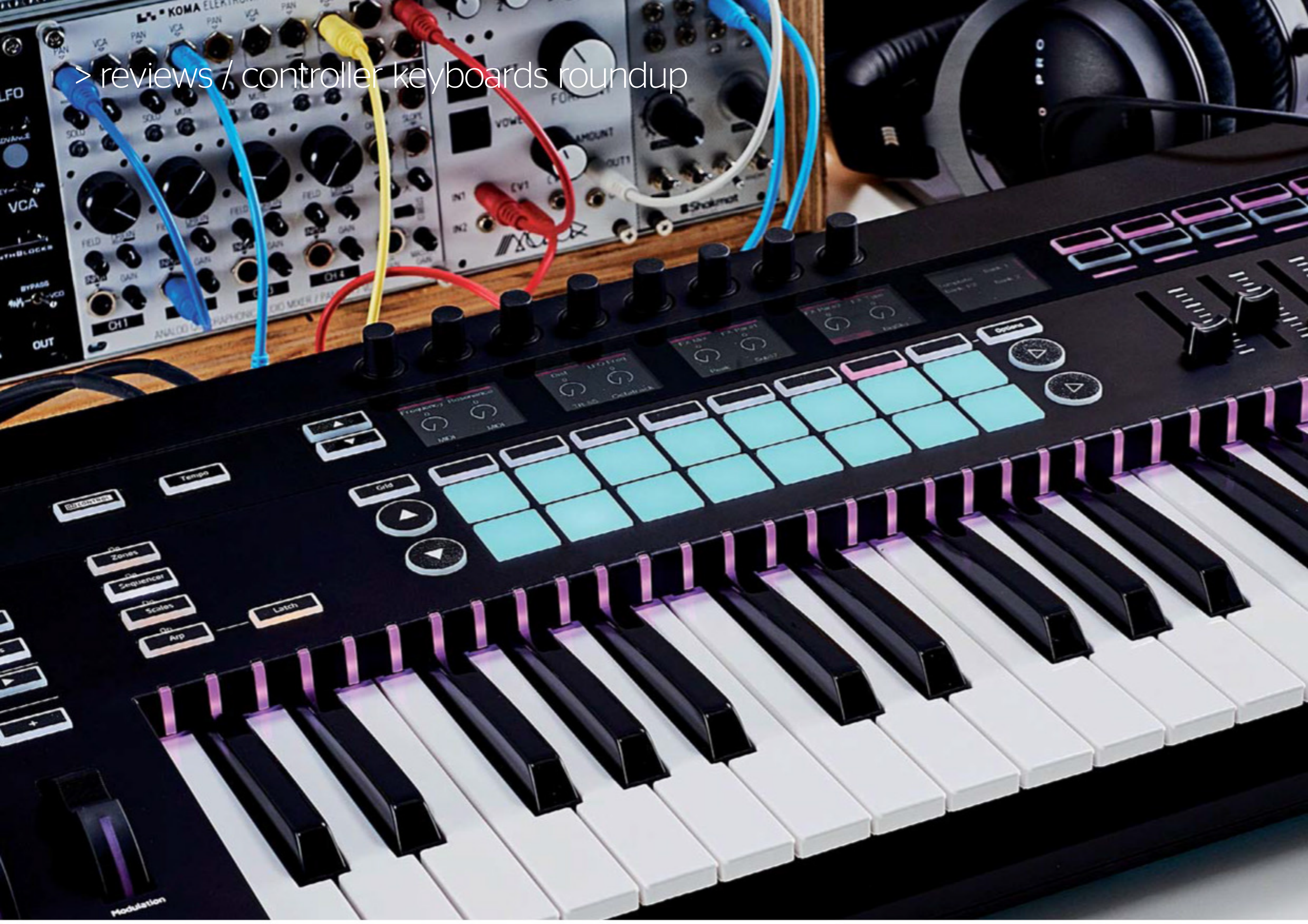
Optic Standard: $56 Deluxe: $67

Slick selection full of big and bouncy beats for prog house heads with an eye for deep and dusted grooves. All the fleeting and flashing files here form quite the library of hypnotic rhythms, tech-dressed drums, and foot-provoking basslines.

The tone is timeless and the energy evoked is built to blue-ball. With all the club-ready music inside on the edge of climax at all times. A great set of tension-tickling sounds and sensations in the Standard pack. But, if you're feeling a little flusher, plump for the Deluxe version for the marvellous MIDI.

www.audiotent.com

8/10



Best MIDI keyboards

Owning a great MIDI controller keyboard will take your music production to another level. There are many different priced and sized models out there, but don't worry, we have the ultimate guide on the subject, right here...

MIDI controller keyboards not only allow you to play and record tunes into your computer, they also let you control software – and in some cases, other studio hardware – so have become one of the most essential items for the modern music producer. They can be plugged directly into your computer or laptop via USB – or, in some cases, operate wirelessly over Bluetooth or connect to iOS devices to control apps. They are mostly used to let you play and record with your DAW's software instruments and any VST synth plugins you might have installed.

There are plenty of models to choose from. You can opt for a compact, portable MIDI keyboard that fits comfortably in a laptop bag, or you can go all in with a full-size, 88-note model with weighted hammer-action keys. Most options we recommend over the following pages also come with additional features such as knobs, pads, buttons and faders to boost creativity and give you even more control over your software.

You can get a perfectly decent cheap MIDI keyboard for way less than £100 if you shop around, but up your spend even slightly and you'll get your hands on a higher quality model with more features and higher specs. It might well be a little more rugged, too; something to consider if you want to take it on the road. And if you are a trained keyboard player, you might want to consider an 88-note model with weighted keys for the ultimate playing experience – we have also included some of these in our guide.

Most keyboards come with attractive bundles of software – synths, effects, sometimes even complete DAWs – and we've highlighted the best of these bundles in our reviews roundup.

Many MIDI keyboards also come with mapping templates for the most popular DAWs – Ableton Live, Logic Pro, FL Studio, etc – making it easy to get up and running directly with these DAWs, and start producing music right out of the box.

Over the next few pages we have reviews of 19 of the best MIDI keyboards available. To help you find the right one, we've selected our favourites in the Top Picks box. We've also included buying advice and more, so read on to find out which is the best MIDI controller keyboard for you!

Buyer's advice

What key size do I need?

For simple inputting of drum beats, bass and melody lines and basic chords, smaller MIDI controllers with mini keys should do the job just fine. These have the advantage of being cheaper and more portable than their larger brethren and take up a smaller footprint on your work surface. These days, some people find that mini keys can be just as responsive and easy to play as full-size versions.

If, however, you're coming from a piano or keyboard background, you will probably require the more traditional playing experience provided by full-sized, weighted keys. Thankfully, there are options out there for everyone.

How many keys do I need?

The best MIDI keyboards featured here come with octave shift buttons, meaning that the full range of note pitches is accessible even from a 25-key device, just by pressing a couple of buttons. That said, if you're a more advanced player, or want to learn how to play two-handed, it's better to go for a four-octave (49-note) or five-octave (61-note) keyboard. If space isn't an issue, you can even opt for an 88-key, piano-sized controller if desired. For basic melodies and chords, a smaller keyboard will work just fine though.

Connectivity: what you need to know

With a lot of producers now working in-the-box on a single computer or laptop, you don't necessarily need a MIDI output unless you have hardware MIDI synths to connect it to, but some controllers do come with traditional 5-pin MIDI out ports. Smaller, mini jack TRS MIDI outputs are also becoming more popular and offer the same functionality. Most controllers in this guide can be powered via the USB port, and if you want to play proper piano parts, a sustain pedal input is a must.

Understanding DAW Integration

Being able to control the transport of your DAW and adjust the parameters of your software instruments from your keyboard rather than your computer is always handy. Once you've added remote transport – ie via a physical keyboard or controller – you'll struggle to go back to your mouse for actions like playing, pausing and record arming. If you stick to one DAW and find a controller which boasts deep integration – and many do nowadays – then you're in for a treat.

Best MIDI keyboards: our top picks

MIDI controller keyboards tend to fall into size categories: either compact, portable devices with 25 keys or larger, desk-based options with 49 or more keys and then 88-note keyboards aimed at 'proper' players.

In the compact corner, because of the sheer number of features crammed into such a light, small footprint, our first recommendation is the Novation LaunchKey Mini Mk3. It has instant support for Ableton Live, and handy creative tools like an arpeggiator and chord memory function. Next up, we also recommend the Akai MPK Mini Mk3. Put simply, it has everything you'll need, from decent quality keys, endless rotary knobs, and eight sought-after MPC-style pads for creating beats. The Arturia KeyStep Pro is also an excellent compact controller which can connect simultaneously to DAWs, hardware synths and even modular gear. Finally the Nektar SE25 has an almost crazy number of features given its size and price.

If you're looking for a larger controller, we heartily recommend Native Instruments' Komplete Kontrol S-Series boards, and in particular the Native Instruments Kontrol S61 Mk 2. They feature excellent keybeds, fantastic styling, wonderful twin colour screens and impressive functionality. Both the M-Audio Oxygen 49 MKV and Novation 49 SL MkIII also offer an excellent range of features for the money in the mid-sized area of the keyboard market.

At the top end in terms of keyboard size and playing experience, you really should check out the Nektar Impakt LX88+ which offers an awful lot of playing and features for the money. Finally the Roland A-88MKII might be one of the most expensive keyboards but does offer the best 'proper' playing experience and with MIDI 2.0 installed, is future proof to boot.

Nektar SE25 £40

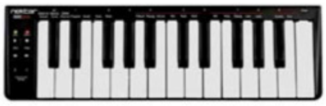
COMPATIBILITY: Mac, PC | **NO OF KEYS:** 25 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** 6 function keys; assignable PB1 & PB2 buttons for pitch bend, transpose, volume, pan & track; assignable 'Part Two' button for octave, MIDI channel, transpose, layer & latch; S button for sustain & modulation | **CONNECTIVITY:** Micro USB port, sustain pedal | **INPUT POWER:** USB | **SOFTWARE:** Bitwig 8-Track | **DIMENSIONS (MM):** 335 x 100 x 21 | **WEIGHT:** 0.4Kg

If you're always making music on the move, a pint-sized MIDI controller keyboard that'll fit in a laptop bag is an essential item. Nektar's SE25 shows that features and playability needn't be sacrificed for size and portability.

Only outpriced in the budget controller stakes by the ever-so-slightly cheaper Akai LPK25 (which doesn't provide any form of DAW integration), Nektar's new pocket powerhouse represents incredible value for money.

We found the SE25 to be thoroughly impressive during our testing process, and while it's a simple, compact product, it does exactly what you need a small MIDI keyboard to do – no more, no less.

Where else can you get Nektar DAW integration for Bitwig, Cubase, Garageband, Logic, Nuendo, Digital Performer, Mixcraft, Reason, Reaper, Sonar and Studio One for a measly £40?
www.nektartech.com



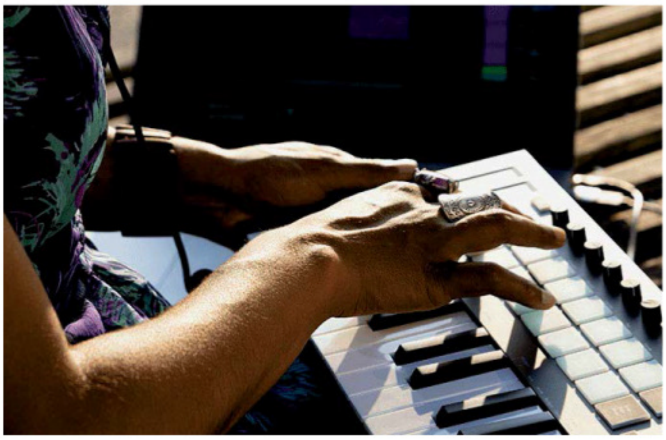
Verdict

For Incredible value
Nektar DAW integration
Fits in a laptop bag

Against It's very simple

Professional, practical and portable playability for a paltry price. The Nektar SE25 is pretty good then!

9/10



Novation
Launchkey Mini Mk3 £69

COMPATIBILITY: Mac, PC, iOS | **NO OF KEYS:** 25 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Octave shift, Transpose, Pitch and Modulation strips, 16 velocity-sensitive backlit RGB launch pads, 8 rotary encoders, 10 function buttons | **CONNECTIVITY:** USB B port, 3.5mm TRS Type A MIDI out, Sustain Pedal input | **INPUT POWER:** USB | **SOFTWARE:** Ableton Live Lite, two months of Splice Sounds, AAS Session Bundle, Softube Time & Tone, Spitfire Audio LABS Expressive Strings, Klevgrand DAW Cassette and ROVerb, XLN Audio Addictive Keys, membership of Novation Sound Collective | **DIMENSIONS (mm):** 330 x 172 x 40 | **WEIGHT:** 0.69Kg

Developed primarily for Ableton users and recently updated, this pocket powerhouse is just brimming with features, many of which were missing from the previous version, including – finally – pitch bend and modulation touchstrips, a hardware MIDI out on a TRS jack, an incredibly flexible and versatile arpeggiator, a chord memory feature, and a great, deal-sweetening software bundle to go with it.

Of course, the Launchkey Mini Mk3 isn't exclusive to Ableton, as it plays perfectly nicely with other DAWs too, but if you're a Live user, it undoubtedly represents the best solution you'll get at this price point.

As a general use MIDI keyboard, we found the Launchkey Mini MK3 to be more than adequate for our dual-octave, travel-friendly needs. If you want a small, velocity-sensitive MIDI keyboard with impressive connectivity, we don't think you can go far wrong with the Launchkey Mini Mk3.

https://novationmusic.com

Verdict

For Fantastic arpeggiator
Brilliant integration with Live
Sustain pedal input

Against No MIDI adapter included

This Ableton Live-friendly supermini controller gets a sizeable update with the latest Mk3 version and packs a lot of punch for the cash

9/10

Novation
FLkey 37 and FLkey Mini £99/£199

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 37 (25 for mini) | **KEY SIZE:** Full (mini) | **KEY TYPE:** velocity | **CONTROLS:** Pitch and mod wheels, 16 RGB backlit pads, 8 knobs, an LCD display, and 24 buttons (Mini has just 10 controls, no display) | **CONNECTIVITY:** USB, MIDI out (1/8" for Mini), 1/4" sustain input | **POWER:** USB | **SOFTWARE:** Six-month trial of FL Studio Producer Edition, XLN Audio Addictive Keys, Klevgrand Reverb and DAW Cassette, AAS Session Bundle, Spitfire Expressive Strings | **DIMENSIONS (cm):** 127 x 25.8 x 8.7 | **WEIGHT:** 8.3kg

Novation's FLkey 37 and Mini keyboard controllers are both dedicated controllers for the popular DAW, FLStudio. They're directly comparable to Novation's Launchkeys, which cater mostly for Ableton Live users. The FLkey 37's keys are of the full-size synth-type variety, and they're part of what makes this such an enjoyable controller, contributing to the out-of-the computer vibe. The pads are velocity sensitive, and change colour depending on the job at hand for added visual feedback. The knobs are large enough to get a decent hold on, and all of the buttons are backlit so they're identifiable in darker rooms.

The Mini comes with its share of compromises, but the functionality's still there; still good for instruments, finger drumming (and velocity sensitive), as well as button functions.

These are very nice keyboard controllers and a no-brainer choice for FL Studio. As with the best controllers, it feels like the software has broken out into the hardware world. If we were going to choose one model, it'd be the FLkey 37 – that display and the extra buttons, and the expanded playing functions, make it worth the extra money and space, recommended for any FL Studio user seeking keyboard integration and hardware control.

https://novationmusic.com

Verdict

For Access to the most important FL Studio functions.
Clear control layout
Pads great to use

Against FL Studio focussed

Superb controllers for FL Studio and essential for live and studio use alike

9/10

IK Multimedia
iRig Keys 2 Mini £99

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 25 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Volume, Octave up/down buttons, Program up/down buttons, Setup button, assignable data push encoder, 4+4 assignable knobs, Modulation | **CONNECTIVITY:** MIDI in/out, micro-USB, 1/8" headphones output | **POWER:** USB | **SOFTWARE:** iOS SampleTank, Syntronik Pro-V Cubasis LE. Mac/PC: SampleTank 4 SE plus one of your choice from seven titles | **DIMENSIONS (cm):** 32 x 14 x 5 | **WEIGHT:** 0.58kg

Keys 2 Mini 25 is the smallest and cheapest model in the iRig Keys range, with 25 mini keys. The range also has 37 mini key and Pro (37 full-sized key) options. Mini 2 25 is small enough to place on any desktop, sturdy enough to stay in place there, and features direct connectivity to iOS devices.

As well as the controls that we've listed above, you can delve deeper with an Edit Mode to assign MIDI options and more, using the keys to select parameters. Program buttons, assignable rotaries, a Set button and useful assignable push-button data knob make it a complete set of controls for a keyboard model of this size.

The keyboard is not exactly what you'd call a player's dream but it's solid and well sprung. There are no dedicated pitch-bend and modulation dials, but if this is important, there are workarounds when you dig deeper, again with Edit Mode.

We criticised the bigger iRig Keys 2 for being a tad expensive, but this offers much of the functionality of that over a smaller footprint, and represents a well-spec'd keyboard controller for less cash, and there's a decent software bundle too.

www.ikmultimedia.com

Verdict

For Lots of features for the cash
Decent build quality and playability
Good software bundle

Against No pitch and mod wheels

iRig Keys 2 Mini is a small-form, very well-priced keyboard with plenty of features and controls

8/10

Arturia
Keystep 37 £89

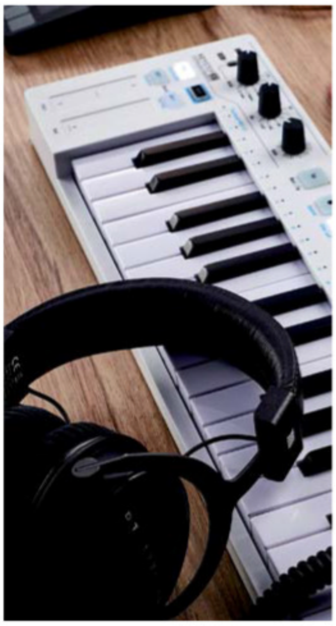
COMPATIBILITY: Mac/PC | **NO OF KEYS:** 37 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Four assignable encoders, transport controls, touch strips for pitch and modulation | **CONNECTIVITY:** USB, clock sync, CV gate/pitch/modulation | **POWER:** 12v DC or bus | **SOFTWARE:** Ableton Live Lite | **DIMENSIONS (cm):** 55 x 35 x 15 | **WEIGHT:** 1.6kg

Sitting nicely between the Keystep and Keystep Pro, the Arturia Keystep 37 has enough features of its own to be classed as an upgrade over the original – and much-loved – model.

The expanded 37-key section allows more complex patterns and melodies to be played, while adding four assignable encoder knobs – with visual feedback – offers real-time feedback on your DAW parameters.

The sequencer is a joy to use, with the ability to program up to 64 steps directly onto the keyboard itself. This, along with the arpeggiator, can be used within your DAW or to control external hardware or modular synths making it a versatile studio workhorse which is suitable for several different workflows.

www.arturia.com



Verdict

For Sequencer and arpeggiator offer a lot of creative potential
Strum functionality is very fun!

Against DAW mapping can be temperamental at times

Arturia Keystep 37 is a creative and versatile MIDI keyboard with neat tricks of its own

9/10

Native Instruments Komplete Kontrol M32 £88

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 32 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Eight touch-sensitive control knobs, two touch strips, four-directional push encoder | **CONNECTIVITY:** USB | **INPUT POWER:** USB | **SOFTWARE:** Ableton Live Lite, Monarch, 6100 sounds and 10GB of content | **DIMENSIONS (cm):** 47.5 x 16.7 x 0.5 | **WEIGHT:** 1.45kg

Delivering almost the exact same functionality as the Komplete Kontrol A-Series (see opposite), this eminently mobile USB 2.0 bus-powered keyboard manages to squeeze 32 mini keys and the full complement of Komplete Kontrol controls into its compact frame.

The pitch and mod wheels have been replaced with a pair of short touchstrips, but the eight capacitive knobs, 4D encoder and numerous buttons are uncompromised in size and feel, giving the full experience for browsing and manipulating plugins, operating Maschine, and getting hands-on with DAW transport and mixers.

The surprisingly informative OLED display from the A-Series is also in place, as is the Smart Play feature, enabling scale snapping, chord triggering and arpeggiation. And, of course, it also works as a

regular configurable MIDI controller keyboard with any other software.

For us, the mini keys were the only real downside. They're tolerable after some getting used to them, so if you can live with them too, this is the one of the best portable and affordable MIDI keyboard you can buy.
www.native-instruments.com

Verdict

For Very portable
More keys than you get on your average mini MIDI keyboard
Tight software/hardware integration

Against Mini keys

Komplete Kontrol M32 is one of the best value MIDI keyboards you can buy for compact music creation

9/10

Native Instruments Komplete Kontrol A25 £129

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 25 | **KEY SIZE:** Full-size | **KEY TYPE:** semi-weighted | **CONTROLS:** Pitch and Modulation wheels, transport buttons, 4-directional push encoder, eight touch-sensitive knobs | **CONNECTIVITY:** USB | **POWER:** USB | **SOFTWARE:** Ableton Live Lite, Komplete Start, 6,700 sounds and 13GB of content | **DIMENSIONS (cm):** 48.8 x 25.7 x 8.9 | **WEIGHT:** 2.4kg

Available in 25-, 49- and 61-key versions (we have the A25 for review), the A-Series borrows many of the S-Series' best features (see later), including the 4D Encoder (a joystick/rotary control/button combo) for software navigation; eight touch-sensitive knobs for plugin parameter control; beefy pitch and mod wheels; and most of the same backlit buttons, albeit laid out in a slightly different way.

There are, however, two major cuts: the dual colour LED screens (or alphanumeric LEDs on the S25, which still languishes at Mk1), and the unique per-key Light Guide LEDs. Even with those things taken away, though, and the reduced level of Maschine integration, we're still very much blown away by the value proposition presented by the A25 and the A-Series keyboards in general.
We felt that the Komplete

Kontrol A25 was potentially needlessly larger than other 25-key units – albeit incredibly well-built and wonderfully playable. Native Instruments deliver up the Komplete Kontrol experience at a truly irresistible price.
www.native-instruments.com

Verdict

For Top-notch build quality and keybed
Works great with Komplete Kontrol
Decent software bundle

Against Comparatively bulky

The A25 delivers the great Komplete Kontrol experience at a fantastic price – highly recommended

10/10

Akai
MPK Mini Mk3 £79

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 25 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Eight assignable encoders, eight MPC pads, full transport controls, 4-way joystick | **CONNECTIVITY:** USB | **POWER:** Bus-powered | **SOFTWARE:** MPC Beats, Bassline, Tubesynth, Electric, Hybrid 3, Mini Grand, Velvet | **DIMENSIONS (cm):** 32 x 18 x 4 | **WEIGHT:** 750g

The Akai MPK Mini Mk3 is, in many ways, the best MIDI keyboard for most people, particularly those who are looking for a quick and easy way to add melodies, basslines and simple chords to their projects.

For us, what elevates the MPK Mini Mk3 from a simple keyboard, is the addition of eight encoder knobs which can be easily mapped to practically any parameter of your DAW, and eight full-sized MPC style drum pads. What you get, therefore, is a full-service production powerhouse which excels in many different playing and performing situations. It's small enough to be thrown in a backpack, yet contains enough useful features and functions to make it a highly useful addition to any studio.

www.akaipro.com

Verdict

For Loads of control
Great bundled software

Against Mini keys are certainly mini

One of the best value MIDI keyboards, the Akai MPK Mini Mk3 is certainly packed with more features than its size indicates. A great buy

10/10

Korg
microKEY2 Air-25 £89

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 25 | **KEY SIZE:** Mini | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** Joystick, Arpeggiator button, Sustain/TAP button, Octave Shift buttons | **CONNECTIVITY:** USB, Bluetooth | **POWER:** USB or batteries | **SOFTWARE:** Special editions of Gadget and Module plus the Korg Collection M1 | **DIMENSIONS (cm):** 39.5 x 13.1 x 0.52 | **WEIGHT:** 0.67kg

The microKey 2 Air range includes 25-, 37-, 49- and 61-note models, all of which have the advantage of working wirelessly over Bluetooth. If you want to use this feature you'll have to install a couple of AA batteries, but these last for a good length of time and good old USB bus-powering is also an option.

The microKey 2 Air 25 isn't the most controller-packed keyboard, but it gives you the basics and plays far better than many of its rivals. In testing, we also found that it's easy to set up and operate, so if you want to free yourself from the tyranny of cables, you've found the MIDI controller keyboard you need. Being so compact and wireless, it's probably the most flexible keyboard for taking out and about too.

www.korg.com

Verdict

For Works wirelessly
Decent natural touch keyboard
Very compact

Against Mini keys aren't for everyone

This one of the most flexible and portable controller keyboards around – and one that works wirelessly too

8/10

M-Audio
Oxygen 49 MKV £129

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 49 | **KEY SIZE:** Full-size | **KEY TYPE:** Velocity-sensitive | **CONTROLS:** 8 velocity-sensitive trigger pads, 8 assignable knobs, 9 assignable faders, transport buttons | **CONNECTIVITY:** USB, sustain pedal | **POWER:** USB | **SOFTWARE:** Ableton Live Lite, MPC Beats, Skoove and Melodics instrument learning, Air Hybrid 3 and Mini Grand instruments | **DIMENSIONS (cm):** 81 x 24 x 9 | **WEIGHT:** 2.9kg

Oxygen 49 is the cheaper version of M-Audio's Pro 49, and while it lacks some of that keyboard's features, it's still a worthy MIDI keyboard controller. The OLED display of the Pro is replaced by a 3-segment LED display, while the 16 multi-coloured pads are stripped back to eight back-lit red ones, but are split into two banks of eight, so you still have access to 16 sound sources from the front panel when programming, just not simultaneously.

Also absent is the dedicated MIDI out port, but perhaps the biggest difference is that the Oxygen 49's functions are mostly triggered via soft keys and via 'secondary modes' from the keybed itself.

That all said, much of the tech introduced with the Pro is here, so you get Smart Chord and Smart Scale modes which aid songwriting and composition, an excellent arpeggiator, plus Beat Repeat so that stutters and repeats can be triggered from the pads. The Oxygen Pro 49 breathed new life into the Oxygen range and this sibling is also feature-packed and creative, with many of the features for less cash.
www.m-audio.com

Verdict

For Chord and Scale modes great for composition and production
Fully-featured arp
Deep DAW integration

Against Less ergonomic and half the pads of the Pro

The Oxygen 49 MKV is a feature-packed and creative keyboard, with many of the features of its more expensive Pro sibling

9/10

Roland A-88MKII

£899

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 88 | **KEY SIZE:** Full-sized | **KEY TYPE:** Velocity sensitive with Escapement and Ivory Feel | **CONTROLS:** 8 pads, 8 knobs, Pitch Bend/Modulation lever, 2 assignable buttons, 3 pedals | **CONNECTIVITY:** 3 x TRS pedal jacks, MIDI in/out, USB Type-C, DC input | **POWER:** USB or external PSU (not supplied) | **SOFTWARE:** Control software and Standard MIDI File player | **DIMENSIONS (cm):** 143 x 27 x 12 | **WEIGHT:** 16.3kg

The A-88MKII is a long-awaited update to Roland's much loved A-88 full-size piano action MIDI keyboard. The footprint is compact – good news if you're using it in the studio, and at 16kg it's not too heavy for live use.

The control section has been overhauled with new backlit pads and knobs. Further features include two assignable Control Change buttons, Transpose and Octave selectors, as well as Velocity Curve options and an onboard arpeggiator. Pitch-bend and modulation are handled by a combo lever, and the keyboard can operate in up to three layers or three split zones. A-88MKII is also MIDI 2.0-ready so handy for the extras that this advanced communication protocol brings.

A-88MkII has a great design, with Ivory Feel keys, 3-sensor key detection and key-specific progressive hammer action, which all deliver the feel of a real piano.

Overall it's very capable and a competitively priced update, but its winning feature is that the piano action is class-leading at this price. Given that this isn't the sort of unit one changes that regularly, it's also great to see that it's future-proofed with MIDI 2.0 support.
www.roland.com

Verdict

For Excellently playable keyboard
Compact footprint and not too heavy
MIDI 2.0 support

Against Controller section layout

The Roland A-88MKII is a great controller keyboard that is feature-packed and potentially future proof

9/10

Novation
Launchkey 88MK3 £399

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 88 | **KEY SIZE:** Full-sized | **KEY TYPE:** semi-weighted | **CONTROLS:** 16 velocity sensitive pads, 9 faders, 8 pots, 9 fader buttons, transport controls | **CONNECTIVITY:** 3-USB port, MIDI Out, sustain pedal input | **POWER:** USB or PSU (n/s) | **SOFTWARE:** Ableton Live Lite, XLN Audio Addictive and offerings from AAS, Spitfire and Klevgrand | **DIMENSIONS (cm):** 127.0 x 25.8 x 8.7 | **WEIGHT:** 8.3kg

Novation pitches Launchkey as a DAW-ready device that provides keyboard, keypad and DAW control. It comes with a pretty decent set of onboard standalone features and, in addition to a USB port for connection and power, there's a regular MIDI out and sustain pedal input.

You can use it in conjunction with most DAWs but its custom scripting means that it integrates best with Ableton Live. It also gets extended support in Cubase 12 via a pre-installed script, and there are user-installable scripts for Logic Pro and Reason.

You get a great selection of velocity-sensitive pads, eight pots, nine sliders with accompanying buttons, a small LCD display and transport controls. The keyboard action is fast and positive.

There are plenty of onboard features – the most powerful being its arpeggiator and scaling options – making it an ideal standalone controller.

Overall, Launchkey 88 Mk3 is a solid keyboard. It offers an excellent set of features for the price and is particularly attractive for those using the script-supported DAWs.

https://novationmusic.com

Verdict

For Semi-weighted keybed with good action

Velocity sensitive backlit pads with aftertouch

Extensive features like arpeggiator and selectable scale

Against Works best with supported DAWs

Novation Launchkey 88MK3 is a solid performer and great standalone controller but best used with the compatible DAWs

9/10

Nektar **Impact LX88+** £249

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 88 | **KEY SIZE:** Full-size | **KEY TYPE:** Velocity-sensitive, semi-weighted | **CONTROLS:** 8 potentiometers, 9 faders, 9 assignable buttons, 6 transport buttons, 8 velocity-sensitive pads | **CONNECTIVITY:** USB, MIDI Out port, 1/4-inch TS jack footswitch input | **POWER:** USB or mains | **SOFTWARE:** Bitwig Essentials Package and Bitwig 8-Track | **DIMENSIONS (cm):** 127.6 x 27.9 x 8.9 | **WEIGHT:** 8.2kg

Today's buyers of keyboard controllers are spoilt for choice, but if you're looking for a full piano-size 88-note MIDI controller, said choices are more limited. One great option is Nektar's Impact LX88+, which combines an 88-key semi-weighted USB-powered keyboard with extensive DAW control via nine sliders, nine buttons, eight knobs, eight pads and transport controls.
Despite the number of features, the LX88+ is reasonably compact and light enough to be portable. What's more, the keys feel good and the mechanical noise is quite low. The LX88+ won't suit everyone, and some 88-key users will be after a full weighted hammer-action, but at this price it's a bargain and well worth a try.
www.nektartech.com

Verdict

For A full-size keyboard
Solid but portable
Great value

Against Keys aren't hammer-action

The Nektar Impact LX88+ is a great keyboard considering what you get: a piano-sized controller at a great price

9/10

Arturia
KeyLab 49 MkII £449

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 49 | **KEY SIZE:** Full-size | **KEY TYPE:** Velocity-sensitive with aftertouch | **CONTROLS:** 16 RGB-backlit performance pads, control bank with 9 faders and 9 rotary knobs | **CONNECTIVITY:** Expression, sustain, CV/Gate, MIDI, USB and 3 assignable auxiliary pedal inputs | **POWER:** USB mains with optional adapter | **SOFTWARE:** Analog Lab V software with 2000 synth sounds, Ableton Live Lite, Piano V | **SIZE (cm):** 79.3 x 29.7 x 5.3 | **WEIGHT:** 6.3kg

KeyLab is Arturia's flagship controller keyboard, and the MkII comes in 49- and 61-key versions in black and white. The MkII's keyboard and pads are bolstered by DAW controls and deep integration with Arturia's bundled Analog Lab 3 software. Although similar in layout to the KeyLab Essential, the MkII is a very different unit, with a higher pricetag and more upmarket feel.

We found the aluminium case to feel reassuringly robust, and the Pro-Feel keybed felt fantastic, delivering excellent sensitivity across the full range of velocities. The metal pitch and mod wheels are light and responsive. KeyLab MkII is operationally intuitive, with three distinct modes: DAW, Analog Lab and User (there are ten user configurable presets) – selected via dedicated mode buttons in the centre.

The KeyLab MkII not only delivers fine playability, but also tackles DAW control and synth editing with aplomb. Throw in CV connection capabilities and standalone operation and the price seems justified.

www.arturia.com

Verdict

For Three well-executed modes
Tight integration with Analog Lab

Against Fairly pricey

Great playability, flexible DAW control and synth plus CV connection capabilities all make this a fine keyboard

9/10

IK Multimedia
iRig Keys I/O 49 £249

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 49 | **KEY SIZE:** Full-size | **KEY TYPE:** Velocity-sensitive, synth-action | **CONTROLS:** 2 slider strips for pitch and modulation, octave, program change and transport controls, 5 programmable touch-sensitive knobs, 8 velocity-sensitive pads | **CONNECTIVITY:** USB, Neutrik combo line/instrument/mic input jack with 48V phantom power, balanced stereo and headphone outputs | **POWER:** USB or batteries | **SOFTWARE:** Several iOS apps plus SampleTank 4 SE and three software titles of your choice | **SIZE (cm):** 69.3 x 20.8 x 6.5 | **WEIGHT:** 2.18Kg

The iRig Keys I/O combines a MIDI controller keyboard and audio interface into a single unit, and is designed to be as compact as possible without compromising on playability. It also comes with a seriously impressive line-up of bundled software.

The unweighted keys are light and responsive, with satisfying travel and minimal lateral movement. The onboard audio interface operates at up to 24-bit/96kHz, and sounds very good doing it.

The iRig Keys I/O 49 is small enough to find a space on even the most hectic of studio desks, equipped to handle basic recording duties and general purpose MIDI control on stage and in the studio, and pretty good value. What's more, it comes with a knockout software bundle.

www.ikmultimedia.com

Verdict

For MIDI control and audio I/O in one
Impressive bundled software

Against Only one mono input
Entry-level keyboard

IK's iRig Keys I/O 49 is great MIDI keyboard controller and audio interfaces in one and comes with some great software

8/10

M-Audio
Keystation 61 MK3 £129

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 61 | **KEY SIZE:** Full-size | **KEY TYPE:** velocity sensitive | **CONTROLS:** Octave Shift, Pitch bend/modulation wheels, Transport button for DAW control, 1 Fader | **CONNECTIVITY:** DC Power, USB port, MIDI Out, sustain pedal input | **POWER:** USB or DC | **SOFTWARE:** Pro Tools First M-Audio Edition, Ableton Live Lite, AIR Mini Grand, AIR Velvet, AIR Xpand!2 | **DIMENSIONS (cm):** 99.5 x 18.9 x 6.8 | **WEIGHT:** 4.1kg

If you need five octaves and can squeeze an extra few notes out of your budget, M-Audio's venerable Keystation range of MIDI controllers offers this 61-key beauty for a very reasonable price indeed.

The Mark 3 version here offers a full-size, semi-weighted five-octave board of the kind of quality you'd expect from M-Audio, plus the option to control your DAW's transport via dedicated buttons.

There's the usual trade-off between the number of keys versus the breadth of features available, but if you're looking for sheer playability without all of the bells and whistles you get on other models, this is one of the best cheap MIDI keyboards out there… especially when you consider that there's also an 88-key version available for a measly £199.

www.m-audio.com

Verdict

For Lots of keys in a slim profile
Excellent pedigree
DAW transport/navigation buttons

Against Few assignable controls

This is one of the finest cheap MIDI keyboards. Maximum keys, minimum money from M-Audio

9/10

Native Instruments **Komplete Kontrol S61 MkII** £699

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 61 | **KEY SIZE:** Full-size | **KEY TYPE:** Velocity-sensitive with aftertouch | **CONTROLS:** Pitch and Modulation wheels, touch strip, two high-res colour screens, Light Guide, 4-directional push encoder | **CONNECTIVITY:** MIDI I/O, 1/4" TRS connections for expression and sustain pedals | **POWER:** USB | **SOFTWARE:** Complete 14 Select with 11,000 sounds and over 50 GB of instruments and effects | **SIZE (cm):** 100 x 29.7 x 8.4 | **WEIGHT:** 6.55Kg

The Komplete Kontrol S61 MkII is a smart MIDI keyboard controller that offers pre-mapped control of NI's Komplete instruments and any third-party plugins that support the NKS standard. In comparison to its predecessor, the Komplete Kontrol MkII also adds two high-resolution colour screens, along with 17 additional function buttons. There's tighter DAW and Maschine integration, too, making it possible to mix, navigate and edit projects from the hardware.

As before, there's a Fatar keybed and Light Guide, and we welcome the arrival of proper pitch and mod wheels rather than touchstrips. That being said, a single horizontal touchstrip is supplied and can be used for additional expression. If you liked the idea of Komplete Kontrol the first time around, the good news is that there's even more to like about it now.

You can do so much more from the device itself, with better visual feedback and much deeper levels of integration front and centre of its workflow. If you're already wedded to the Komplete software package, nothing will help you work with it as musically as Komplete Kontrol MkII.

www.native-instruments.com

Verdict

For Tight Komplete and DAW integration
Provides playing assistance
Spend less time with your mouse

Against No sliders

A smart MIDI controller for your plugins and DAW with great integration for any NI and NKS products

9/10

Novation 49 SL MkIII £549

COMPATIBILITY: Mac/PC | **NO OF KEYS:** 49 | **KEY SIZE:** Full-size | **KEY TYPE:** semi-weighted, synth-style, velocity-sensitive | **CONTROLS:** Pitch and Modulation wheels, 16-full colour RGB backlit velocity-sensitive drum pads, page and scene launch buttons, 8 continuous rotary knobs, 8 sliders, 6 transport controls, octave/transpose buttons, track buttons, 5 RGB TFT screens | **CONNECTIVITY:** USB, MIDI Out/Out2/Thru, Sustain and Expression pedal, Footswitch pedal, CV/Gate/Modulation 1 and 2, Clock out | **POWER:** Mains power | **SOFTWARE:** Ableton Live Lite, 4GB of sounds | **DIMENSIONS (cm):** 81.7 x 30 x 10 | **WEIGHT:** 6.8Kg

Sure, you can plug the SL MkIII into a computer and use it to control your DAW, but with an eight-channel onboard sequencer and multiple forms of digital and analogue output, this latest SL really can do much more besides. Novation has done an excellent job in making setup as hassle free as possible, but given how adaptable the SL MkIII is, you'll still need to spend some time configuring it to best adapt it to your own setup.

It doesn't quite match the plug-and-play immediacy of NI's Komplete Kontrol system, but offers much more flexibility for interfacing hardware and software. The ability to sequence and control analogue hardware, MIDI-equipped instruments, plugins and your DAW all from one interface and clock source is excellent, and if you dig into the SL MkIII's versatile workflow, and you'll find that there's a deep well of creative possibilities that are just waiting to be explored.

https://novationmusic.com

Verdict

For Excellent, easy-to-use sequencer
Flexible range of digital and analogue control
Components system makes it easy to manage and edit template

Against No per-channel swing

Novation's 49 SL MkIII is one of the best MIDI keyboards for combined software/hardware control. A great buy.

9/10

Arturia
Keystep Pro £399

COMPATIBILITY: Mac/PC/iOS | **NO OF KEYS:** 37 | **KEY SIZE:** Slim | **KEY TYPE:** Velocity and aftertouch sensitive | **CONTROLS:** Four-track controller/sequencer, with arp and drum sequencing modes. I, 4x CV voices w/ pitch, gate and mod/velocity outs, clock in/out/reset | **CONNECTIVITY:** USB, sustain in, speaker and line output | **POWER:** USB or mains | **SOFTWARE:** Analog Lab Intro, Ableton Live Lite | **DIMENSIONS (cm):** 58.9 x 20.8 x 38.0 | **WEIGHT:** 2.7kg

Between their 'Step' and 'Lab' devices, Arturia have a pretty broad range of controllers, ranging from the simple, budget-friendly MicroLab MIDI keyboard to the multi-format sequencing tools of the BeatStep Pro. Now the KeyStep Pro arrives to fill one of the few remaining gaps in that line-up; combining the cross-format analogue and digital sequencing of the BeatStep with a 37-note keyboard making it better suited to melodic work.

The KeyStep Pro features four sequencing channels, each of which can record a sequence of up to 64 steps. Each of these is polyphonic, up to 16 notes per step. Tracks 2, 3 and 4 are each equipped with an arpeggiator, while track 1 doubles up as a 24-part drum sequencer.

For melodic sequencing duties and flexible hardware control, this is easily one of the best do-it-all controllers out there right now. Its compact size may deter serious 'players' – Novation's SL Mk3 remains the best CV-equipped device on that front – but modular and hardware-loving musicians will likely lap this one up. **cm**

www.arturia.com

Verdict

For Handy mix of analogue and digital I/O

Lots of creative sequencing tools

Arp and drum modes are lots of fun

Against Mini keys unlikely to appeal to serious players

Mod and pitch touch strips are a little small

Keystep Pro is a great all-rounder controller keyboard that fulfils your sequencing and I/O needs

9/10

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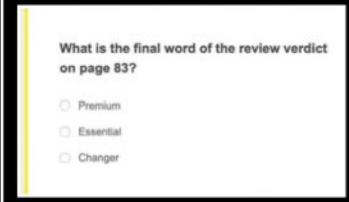

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03 If you enjoyed that issue, you can still purchase our back issues via **bit.ly/pocketmags–cm** and downloads for those will be kept at **filesilo.co.uk/computermusic**

Download the accompanying video and the MIDI/audio files at **bit.ly/cm319downloads**

Track builders!

We're giving away a complete DAW this month, so also throwing in these track builder samples to go with it! Download them now from bit.ly/cm319downloads

Cyclick Tracks

Robbie at Cyclick Samples details his batch of samples with which you can quickly create music, right now!

"This sample pack is made up of six tempo-based track building construction kits across a handful of genres: funk, synthwave/dreampop, French house and shoegaze. These are, of course, starting points and even the slightest of manglings and mix-ups can take them to a whole new space, or at least a different genre.

"The loops are all two or four bars long. Each instrument provides three loops per kit. For tuned instruments, these are in three keys following a I, IV, V pattern, e.g. C, F and G, or A, D and E. All are major keys unless stated in the filename with an 'm' suffix (e.g. Am). Though some use the major key, there is often a minor seventh too (Mixolydian mode).

"Many of the sustained instruments also contribute chord hits that will fit with the three keys/modes of their kits. Chord types are indicated in the filename.

"As with all samples, these are starting points and deserve to be cut up, mangled, spliced, mashed and diced as you see fit!"

There are more detail in Rob's PDF in the Samples download folder

SELECTED GEAR

Fender Stratocaster
Squier Jazzmaster
Ibanez AS7312 12-string guitar
Musicman Stingray bass (1977)
Squier Precision bass
Origin Effects Cali76 compressor
Vox V847 Wah
Focusrite ISA 828 preamps

Groovy Beats & Bass

Oli Bell from Groove Criminals details his all new mix 'n' match track builder samples…

"This month we've put together a selection of mix and match drum loops and basslines to quickly assemble the rhythmic foundation of a track. Perfect to drop into your free Tracktion DAW software!

"The drums are split into kick and snare, hi-hats and percussion, and are designed to work with each other so you can mix and match until you get a combo you like.

"All the drums were either put together in Battery using our frankly stupid amount of drum samples, or the Airbase 99 and TR-8. We've used minimal effects on the drums (though some of the loops have been processed; we couldn't help it) to make it easier to mix and match.

"The bass loops have been split between software and hardware and hopefully span a decent amount of styles and sounds. A special shout out goes to the Novation Super BassStation which on top of being a really hands-on analogue synth also has a gate/CV output that makes converting MIDI to CV easy. It worked a treat when we dusted off our trusty SH-09 mono synth."

SELECTED GEAR

Access Virus B
Moog Mother 32
Quasimidi Technox
Novation Super BassStation
Roland SH-09
JoMox Airbase 99
Roland TR-8
NI Battery 4
Various soft synths

FROM THE cm VAULT

2017 remix samples

We're giving away a free DAW and synth this month, so what better samples to go with it than these classic remix collections which we originally gave away way back in issue 157?

24-bit cm Remix Toolkit

Way back in issue 157 of *Computer Music* – that's a mere 13 years ago, fun fact fans – we ran a Remix Special and offered a huge collection of remix samples to go with it. As we're giving away Tracktion this month, we thought these samples might be worth revisiting, so here they are in their vintage glory. And here's what we said about them all those years ago…

"Here we present a selection of sounds designed to help up your remix game. The 2017 sounds you'll find in the **Samples** download folder include drum loops, basslines, synth multisamples, percussion one-shots and much, much more, and are perfect for use in remix productions in house and hip-hop styles, amongst others."

CYCLICK REMIX KITS

including…

- **6 drum kits**
- **6 synth multisamples**
- **240 bass loops**
- **183 beat loops**
- **129 one-shots**
- **15 vinyl noise loops**

The drum kits were created with a variety of old-school drum machines, including a vintage Pearl SY-1 Syncussion, and a combination of layered drum machine and acoustic drum kit samples. The synth sounds were mostly taken from a Synthetone Jen SX1000 monosynth and a Kurzweil K2600 run through various stompbox effects, with electric bass tones provided courtesy of an Epiphone Ripper and a Musicman Stingray.

GROOVE CRIMINALS REMIX KITS

including…

- **205 bass one-shots**
- **100 beats**
- **300 drum hits**
- **84 FX**
- **34 loops**
- **6 synth multisamples**
- **99 synth one-shots**

For the bass and synth one-shots, a mixture of software and hardware synths were used, including a Juno-60, Novation K-station, Moog Little Phatty, Waldorf Pulse and Novation Super Bass Station. The drums were provided by a combination of recordings and hardware, including the JoMox X-Base 09.
www.groovecriminals.co.uk

The Groove Criminals used a variety of hardware synths to make their contribution to our Remix Toolkit

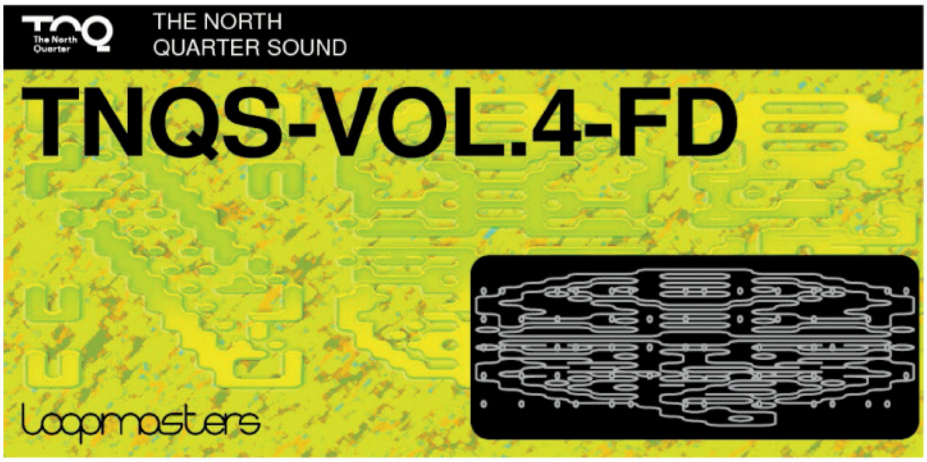
Download the accompanying video and the MIDI/audio files at **bit.ly/cm319downloads**

Loopmasters

Loopmasters cm319 samples

This month's demo sample selection highlighting Loopmasters' latest releases

01 LM Francesca Lombardo - Echoes
02 Aim Audio Lo-Fi Vinyl Textures
03 Renegade Audio Chopstick Dubplate – Jungle Soundclash Vol 1
04 ZTEKNO Magma – Melodic Techno
05 Loopmasters The North Quarter Sound Vol. 4 - FD
06 Thick Sounds UK Garage Dynamics



cm/video

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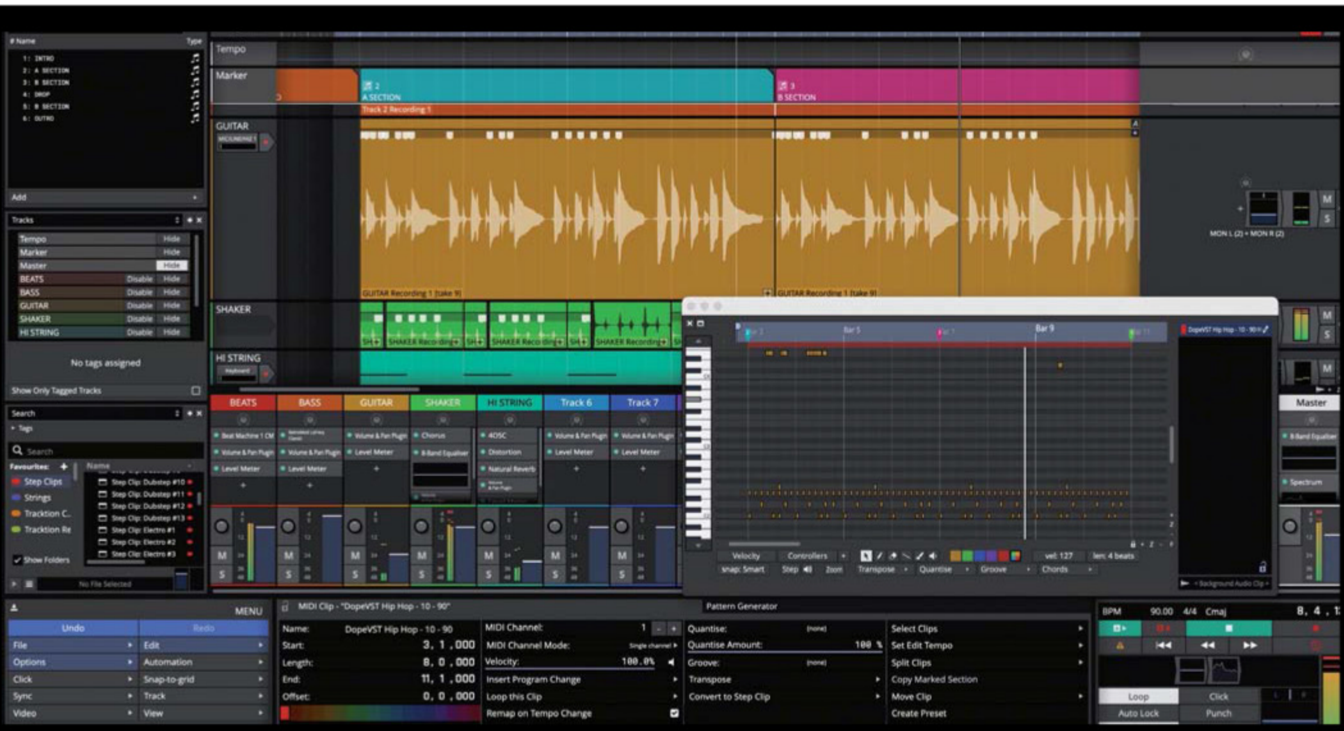

YOUR FREE DAW+SYNTH

How to get Tracktion Waveform Free and your free synth!

Read the full article from p18

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THE PERFECT SYNTH PAD

Read the full article on p40

MIX MASTERCLASS

THE 3-REVERB TECHNIQUE

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Catch up on what you've missed – all of these issues include FileSilo downloads!

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March 2023

- Total Control! The latest in controller tech – and an interview with expressive control king Atau Tanaka
- **2 bass plugins and 1150 samples FREE**

ISSUE 317
February 2023

- Get Dynamic! Compression demystified
- **Bumper pack of 2022's best CM plugin offers and samples - for FREE**
- Lykke Li interview

ISSUE 316
January 2023

- Become a Synth Power User: 30 pages of tips
- **FREE XILS Lab 3 CM softsynth**
- 2,950 FREE Samples
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December 2022

- Extreme FX: boost your creativity and perfect your sound
- **FREE T-RackS EQP-1A (offer closes 15/12/22)**
- 2750 FREE Samples
- Deadmau5 interview

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November 2022

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- **FREE Audified IronVerb CM (to 5/4/23)**
- 2600 FREE Samples
- Best budget interfaces

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- The Ultimate Beats Package including 3x FREE drum machines and 2600 samples
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- Delay Tactics - your comprehensive guide
- **FREE best ever compressor plugin plus 1000 samples**
- Sound like Kate Bush
- **Best piano VSTs**

ISSUE 311
September 2022

- Essential Guide to Analogue Dirt
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ISSUE 310
August 2022

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- Create Aphex Twin pads and perfect wobble bass

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July 2022

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ISSUE 307
May 2022

- 60 Years of the Synth – a guide to the history of electronic music-making
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MORE BACK ISSUES AVAILABLE

Vault downloads available only from **cm**182 onwards. See **bit.ly/cmvaultfaq**.

Next issue

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Make music – and cash – for film & TV!

Next month is a soundtracking special, as we dive into the world of creating music for picture. We examine the actual process of composing for film and TV, including sync'ing opportunities and whether you really can make money from your music!

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The ultimate reverb plugins for adding atmosphere

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COMPUTER MUSIC

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